

Original Correspondence.

GOLD QUARTZ QUENCHING.

SIR.—In your last Journal (p. 354) it is said on this subject, speaking of Mr. Calvert, "The question of machinery is settled." It is not my meaning to object to that expression, in the sense there applied; but merely to refer to a well-known principle, which I do not remember to have seen alluded to in connection with this business.

Quartz, ignited, and thrown in that state into water, becomes so *tender*, as to grind as easily as loaf-sugar. The stamping fine of hard quartz, must fracture and pulverise more or less of the minute gold, fine enough to wash away with the silt. But heating it would have rather an opposite tendency—namely, to detach it from the quartz (by difference of expansion), and to run small threads or scales together (by softening) into granules.

The quenched quartz may be ground in a sequence of mills (like a coffee mill), of graduated fineness, separating the larger particles of gold as it goes forward. Where fuel is very costly, this may not pay; but a very small proportion would suffice to heat the quartz in a continuous lime-kiln; and a very small steam, well economised, would turn the mills; form a pool for quenching; turn out the quenched quartz, while still hot, to dry for grinding; and wash away the ground quartz from the gold.

It is needless to go into details on the mode of operation; there is nothing new in the principle, which is doubtless well-known to many of the quartz-crushers; but in your paper it may meet the eyes of some who have not thought of it; and if it will consume less fuel, and yield more gold, than steam-stamping raw quartz, and so make some works pay when the vein runs poor: where fuel and fall of water happen to be attainable at moderate cost, it would probably draw profit out of ores so poor as to be otherwise worthless.—J. PRIDEAUX.

ON THE USE OF HOT AIR, AND ITS ASSUMED VALUE IN THE FURNACES OF BOILERS.

SIR.—Perceiving that the question of the smoke prevention, and the use of hot air is again revived in your Journal, I beg to offer the following observations on that subject. They will hereafter form a section of the second part of my treatise on combustion, should it ever come before the public. At present, it could not appear through a more appropriate channel than that of your columns.

C. WYE WILLIAMS.

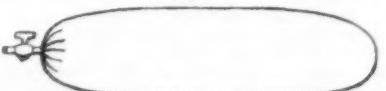
Liverpool, June 13.

The policy or advantage of heating the air, in the expectation of obtaining a more efficient combustion of the gaseous portion of the fuel in the furnaces of steam-boilers, has been so much in vogue among those who profess to "burn smoke," and produce smokeless furnaces, that a special enquiry seems to belong to this treatise—at least, for the purpose of preventing unscientific persons being led astray by statements which are so much at variance with the well-understood laws of the elasticity of the air. The idea that there was some undefined or newly-discovered value in heated air for all heating purposes, seems to have originated in the well-known system, called "the hot-blast," in the manufacture of iron. That it effected one of the purposes of the manufacturer—the producing an increased quantity of melted iron—was undisputed. The *modus operandi*, however, by which the hot-air produced this result, seems no more to have been understood by its inventors than by its imitators of the present day. With reference to the use of hot-air for boiler-furnaces, no enquiry appears to have been made by its advocates as to the temperature to which they proposed to raise the air; or even whether by the several plans suggested the air would, or would not, be heated at all. Fortunately, indeed—and as has been ascertained by actual experiment on several of these patented plans—the air was not heated in any sensible degree beyond what it would have been without their appliances; whatever effect was produced being solely attributable to the fact of the mere admission of the air itself, and not to that of its being heated. It is also to be observed that these systems having been applied where, according to the old principle, no air whatever had been previously introduced for the combustion of the gas in the furnace, each necessarily become more or less effective, and without any special merit of its own.

Again, it does not appear that even an attempt had been made at explaining on what ground, chemical or otherwise, the heating the air could improve the combustion of the gas, or increase the measure of heat produced; still there was something *separable* and attractive in the enunciation of a plan for "burning smoke by means of hot air," that it was listened to by many who had no means of investigating its supposed merits, or exposing its fallacy. The terms, hot-air and hot-blast, had already become familiar among engineers and manufacturers, in consequence of the protracted litigation arising out of Neilson's hot-blast patent, and the great interests involved therein. For the purpose, then, of putting the matter in a right point of view, it will be necessary to consider how far chemical facts and authorities are in accordance with the supposed results. The question for enquiry here is, what is the effect produced by heating the air before it is introduced into the furnace? *Chemically*, and with reference to its constituents (oxygen and nitrogen), no change whatever can be effected. *Mechanically*, however, a most important change takes place, and which appears to have been overlooked, not only by modern "smoke burners," but even by the inventors of the hot-blast—namely, that its volume, or bulk, is increased in the ratio of its increased temperature. Thus, if a given measure of atmospheric air be heated one additional degree, its bulk will be increased 1-480th part; consequently, if heated by an addition of 480°, its bulk would be doubled.

Now, let us see if any effect can be produced on its constituents by this enlargement of its volume. Let fig. 1 represent a body of air at the tem-

Fig. 1.



Air at 32° = 36 grains = 28 nitrogen, 8 oxygen.

perature of 32°, and weighing 36 grs.—viz., 28 grs. of nitrogen and 8 grs. of oxygen, these being the proportions in which they exist in the atmosphere. Again, let fig. 2 represent the same body of air heated to the tem-

Fig. 2.



Air at 32° + 480° = 512°; its bulk will then be doubled.

Nevertheless, there are still but the same relative weights—viz., 28 grs. of nitrogen and 8 grs. of oxygen, and no more.

Now, as the efficiency of the air in producing combustion and generating heat is not in the proportion of such bulk, but of the weight of oxygen it contains, nothing has been gained by such increased temperature; while this great practical disadvantage has been incurred—that double the volume of air must be introduced into the furnace; and, of course, double the draught, or current, must be obtained before the same quantity of fuel can be consumed, and the same number of units of heat be developed.

Again, those who advocate the use of hot air, where the object is the combustion of the gas, lose sight of the important distinction which exists between the constitution of atmospheric air and that of carbureted hydrogen gas—namely, that while the latter is a *chemical compound*, with strong affinities binding its constituents together, the former, on the contrary, is what is considered but a *mechanical mixture* without those affinities: thus affording the utmost facility for the separation of its oxygen whenever it is approached by any body having an affinity for it. This facility for separation explains why the oxygen is enabled to separate from the nitrogen at all temperatures, whereas the constituents of the gas do not so act until they have arrived at a high temperature.

"The atmosphere," observes Dr. Turner, "possesses all the characteristics that should arise from a *chemical mixture*. There is not, as in cases of *chemical union*, any change in the bulk, form, or other qualities of its elements." In the process of combustion, therefore, all that is required is

that its atoms be brought into contact with those of the gas, since as "the nitrogen manifests no attraction for the oxygen, all bodies which have an affinity for it abstract it from the atmosphere with as much facility as if the nitrogen were absent altogether." This is much to the point in connection with rapidity of combustion. "Atmospheric air" observes Prof. Brande, consists principally of oxygen and nitrogen; these gases are merely in a state of mechanical mixture, and by no means, as some have supposed, in chemical combination." This is important, as involving the larger volume of the air, compared with that of the gas. Although in atmospheric air there are two parts of nitrogen and one of oxygen, their united bulk, nevertheless, suffers no diminution (see fig. 3); the bulk of the air being the sum of its three constituents, as given by Professor Brande, thus—

	Volume.	Weight.
1 atom of oxygen	5/6	3
2 atoms of nitrogen	2	28
—3	—2½	—36

In the gas, although there are also three atoms in combination—viz., 1 of carbon and 2 of hydrogen—the effect of their *chemical union* is, that their united bulk is reduced to that of a single atom of the hydrogen (see fig. 4).

	Volume.	Weight.
1 atom of carbon	5/6	6
2 atoms of hydrogen	2	2
—3	—1	—8

We here see the relative bulk of the gas and air. By heating this already inconveniently large bulk of air, we should only increase the difficulty of effecting their mixture; whereas, by heating the gas, we aid the mixture by bringing its atoms nearer, in point of volume, to those of the air.

Fig. 3.

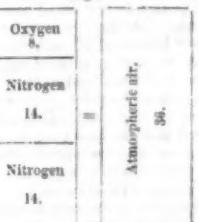
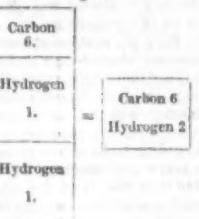


Fig. 4.



This also accords with practice. Sir H. Davy says—"By heating, strongly, gases that burn with difficulty, their continued inflammation becomes easy." Thus, as they are more easily inflamed when hot than cold, we have this testimony in favour of heating the gas, rather than the air. With reference to heating the air, and thus expanding it, Sir H. Davy does not appear to have attempted it; but he has done what was more to the point—he tried the effect of *condensing* it. Professor Brande says—"Sir H. Davy found considerable difficulty in making the experiments with precision; but he ascertained that both the light and heat of the flames of sulphur and hydrogen were *increased in air condensed four times*; but not more than they would have been by an addition of one-fifth of oxygen." This is decisive against heating the air, and in favour rather of condensing it, since, by condensing it four times, it was equal to an addition of one-fifth of oxygen.

To be continued in next week's *Mining Journal*.

ON COLLIERY EXPLOSIONS.

SIR.—I perceive that my letter, quoting Professor Phillips's report on the relative powers of the furnace and steam-jet for ventilating purposes, has elicited a reply from Mr. J. Richardson and "A Mining Engineer," and although it is but right to suppose that "A Mining Engineer" could have given his name as well as your other valuable correspondent, Mr. Richardson, yet I will not take advantage of his want of candour to refuse noticing what he has stated on this important subject.

The "Mining Engineer" thinks it strange for me to be captious about the coming committee, and intimates that I dread it, lest the steam-jet, being put on its trial before an impartial tribunal, should get its deserts, and be sent "the way of all flesh." The assumption of your correspondent is unfounded. Myself, and the great body of miners, were anxious for legislation, and humbly conceived that parliamentary investigations had sufficiently demonstrated that such was the mismanagement of collieries, and the inefficiency of the present measure of inspection, that Parliament ought at once to deal with the subject, and not jeopardize the lives of hundreds and thousands of industrious men by the delay consequent upon another legislative enquiry; and if "A Mining Engineer" could enter into my feelings when these disastrous explosions take place, he would not have been surprised at any manifestation of impatience on my part, the more especially when, by the letter of the "North Country Viewer," to which I alluded, there seemed no other reason to call for a committee but to put down the pretensions of the steam-jet, thus wasting the time of the honourable Members of Parliament, and, perchance, the loss of another 70, or 80, or 100 lives, whilst the same results, and that of a more permanent character, could be obtained by a Government commission, sent down with power and means to experiment upon the relative properties of the various rivals to the present system of furnace ventilation. I beg further to inform your correspondent, that neither myself nor the miners desire to mix up with legislative measure, ventilation by steam-jet, or otherwise, but that it shall be made imperative upon the owners to effectually ventilate their pits, leaving them to find the means and the mode of doing so. Hence I care nothing if the "jet" is sent to the right about to-morrow, if, upon investigation, it will not secure the lives of the workmen, and afford greater protection than what is obtained by the furnace.

But why quote from Professor Phillips, says the "Mining Engineer," he knew nothing but what he was told? He but paid a cursory visit, and was given to understand that about 80,000 feet per minute was obtained, but does not state anything about the 150° temperature of the shaft, &c. Well, I can only reply, that if the figures and letter-press of the Professor cannot be relied upon, why did he make a report at all—why was he sent to investigate into so important a matter, and legislation allowed to hang in the wind for some time awaiting that report, which we are now told is only hearsay, and not to be relied upon. Ah,

"Mining Engineer," the Professor may say—save me from such friends. But it is not true that Professor Phillips was deceived; his own words are sufficiently clear for distinguishing between reports taken on trust and what he personally examined and demonstrated for himself. But what is the position of the "Mining Engineer" himself, if Professor Phillips was misled by the viewers? May not he (the "Mining Engineer") be misled by the Inspectors' report? If we are to conclude that the Professor's figures, comprising five different measurements, are disputable, can we rely upon those of the Inspectors, which he draws attention to? I can tell the "Mining Engineer," that if he be not one of the four Inspectors, the position he has assumed deprives his statement of credit, or only leaves the report of the Inspectors on an equality with Professor Phillips's report, for he was a Government Commissioner.

The "Mining Engineer" also alludes to the details which he gives relative to this question, as opening a wide field for scientific research. Dear me, I thought the question was decided upon the closest application of science—that all the experiments had been conducted upon scientific principles. Yet we are now told that we are but upon the threshold of truth in this matter; and it appears that Mr. Gurney has but enunciated a great principle, which has set all the practical men to work; and in the attempt to demonstrate its fallacy they have blundered so deeply, that they now discover the vast expanse and incomprehensiveness of the subject, and are led to exclaim, à la Newton—"That they are but youths, who have hitherto mistaken fallacies for truths."

I shall dismiss these remarks by asking our friend, why is it that since the steam-jet was introduced into Seaton Delaval, there has not been a single loss of life by explosion, while at the neighbouring collieries frequent explosions of gas have taken place, and attended in some instances with loss of life? Why is it, that not a single complaint has been made by the workmen of Delaval of the inefficiency of ventilation, whilst the workmen of the other collieries have made frequent complaints? How does it happen, that while the workmen of Delaval publicly proclaimed, through the columns of the press, and at the very time the visit of the four Inspectors took place, that the quantity of air was so ample that no gas could be discovered even at the edge of the coal, whilst the workmen at some of the other collieries, close neighbours, have been obliged to desist work, and bring their complaints before the head viewers of the collieries, and where the dangerous accumulation of gas was clearly established to exist, and the complaints of the workmen found correctly stated?

With regard to the communications of Mr. Richardson, I may observe that it is curious that both he and "Mining Engineer" should offer similar objections to the soundness of Prof. Phillips's report, both of them erroneously stating that that gentleman relied upon the information given him, when the express terms of the sentence is, that he *examined* the Delaval Colliery, and that Mr. Elliott repeated, for his instruction, some experiments, by which the effect of steam-jets was compared with furnace action.

And he further adds, as before stated, "that Messrs. Wood, Sinclair, and Robson, gave him information relative to Norwood and Castle Eden Collieries as below," &c. Now, I feel conscious that if Mr. Richardson had not overlooked this distinction, he would not have fallen into the error of misrepresenting the plain statement given by the Professor—the distinction being evidently made to prevent erroneous impressions being taken on so important a matter.

With regard to Professor Phillips declining to recommend the jet, or the contrary, that has nothing to do with the present controversy, which is simply whether we are to take the figures of the four Inspectors for the amount of air obtained by the "jets," or those of Messrs. Forster, Mather, and others, who have reported or given evidence thereon.

Mr. Richardson evidently prefers the report of the Inspectors, and would call in question the evidence of the parties above named; as as the report of Professor Phillips, not derived from information, but drawn from five different measurements at Seaton Delaval, really corroborates the statements given before the committee, my position is, that those gentlemen did give to that committee the real or approximate state of the ventilation of that colliery by the steam-jet; and that the report of the Inspectors does not invalidate their testimony, nor prove such statements to have been erroneously given, and, that intentionally so.

But, says Mr. Richardson, Mr. Jude does not deny the correctness of the report of the Inspectors, and would infer from that that the one or the other statement must be false.

Such an inference, in my opinion, is not correct; both may be true, and yet exhibit the immense difference which they do; and I am quite sure Mr. Richardson will agree with this statement, when I furnish him with the following data, or reasons:

First, then, let us suppose that when Mr. Forster, Mr. Mather, and Prof. Phillips examined the amount of air passing in that pit, the air-ways were of a certain area; and let us suppose when the Inspectors examined the colliery that although the intake air-way might remain of the same dimensions, yet if the return air-ways in the aggregate had become so lessened in area as to be only a half or a third in extent, we may attribute to that cause alone the great difference in the statements put forth by the Inspectors, and those who had previously reported thereon.

Now, we have no evidence that the Inspectors examined all the return air-ways, nor is it stated whether they examined any of them minutely and in detail; consequently, though I may not deny the figures of the Inspectors as to the quantities of air passing,

I do deny, that unless they ascertained whether the return and intake air-ways were of the same area as when examined by the other gentlemen, then all their figures fail as a comparison in the absence of such data, and cannot invalidate the testimony of the evidence given as to the greater quantity of air obtained by the jets, when examined by the parties previously mentioned. Again, we have it represented by the "Mining Engineer," that the greater portion of the upcast shaft is filled with dense masses of smoke, &c., which would necessarily make against the efficiency of the experiments made by the Inspectors.

I am constrained to believe that, should a fair and honourable trial be made with the furnace and jets, and the areas of the air-ways to be the same in both cases, there will not be found that great disparity which is now made to appear, nor the labour and exertions of those interested wasted in fruitless controversy.

Mr. Richardson, like the "Mining Engineer," is surprised at my dissatisfaction at the present committee being appointed, and states that the two previous committees were appointed at the instance of Mr. Gurney; therefore, it is only fair the viewers should have a committee, before whom both parties might be heard and fairly dealt with. I am surprised at the animus of this passage. Is it not notoriously true that the owners and agents of collieries have been called before all the committees, and chiefly so, indeed? It would not be out of the way to state, that two-thirds of the testimony given officially upon the subject of colliery management has been by colliery agents. Hence, there has been every fairness in the case as regards the examining of those parties whom Mr. Richardson writes in favour of. Besides, my dissatisfaction arose entirely from what I considered the want of any necessity for a committee, the time having arrived for complete legislation; yet, as the committee is appointed, I hope the miners and the friends of humanity will have a full opportunity of being heard, and that legislation will immediately follow such enquiry.

With regard to Mr. Gurney calling into existence the two preceding committees, I am sure Mr. Richardson and every friend of the miners' cause will feel grateful to that gentleman for his influence in that direction. It was, I fully believe, the wish and desire of that individual to benefit the mining body by such enquiries, and I hope that parties will always appear when such necessities arise to assist in obtaining justice and protection of the industrious classes.

I shall conclude by noticing the appeal of Mr. Richardson to every unprejudiced mind, as to the clearness and perspicuity of the report of Mr. Wood, &c. I simply reply that, to my mind, the reports are not so plainly demonstrable of the jet's inferiority, inasmuch as I observe that, during the experiments, a great number of changes take place. We have, first, certain doors shut, and others opened; certain regulators closed, and then opened, or half closed, and then altered again, and a host of people stationed here and there in the pit, with certain instructions when to shut and when to open doors, &c. All this seems to me to be uncalculated. Let the air channels remain the same, both when the jets are at work and when the furnace action takes place. A fair experiment would imply that this should be the case; at the same time, I am open to conviction that these diversified regulations were necessary. Again, as to a reliance upon Mr. Wood's data and figures, Mr. Richardson must have seen how some calculations of his were shown to be erroneous by Professor Hann, before the last committee. All these matters, and something more which space and time will not permit me to state, serve to convince that the testimony and experiments of interested or prejudiced parties should be accepted with great caution, and I feel quite certain Mr. Richardson will agree with me in that matter. I trust the committee will be enabled to recommend to the Legislature an ample and efficient measure, so that we may hear less frequently of these terrible disasters, which engender wretchedness and misery amongst a vast number of the colliery operatives and their dependants.—MARTIN JUDE: June 14.

THE NEW COLLIERY COMMITTEE.

SIR.—I perceive your correspondents differ much in opinion as to the object in instituting another parliamentary enquiry into colliery details, and I have no information to enable me to decide between them; but it seems very probable that a principal, as it is indeed a necessary, purpose is to rescind what you justly term the "comedy of errors" on the steam-jet of last session. That committee merely sat to give its sanction to a "foregone conclusion," and avowedly examined only such evidence as might not disturb that conclusion. Just as the advent of a fever or a plague stirs up sanitary determinations, and cleanliness is the result, so the gross advances of this committee have had the good effect of forcing practical men to practically sweep out the nuisance of the steam-jet fallacy; and surely these results of practice deserve equally to be recorded in a report by "collective wisdom," when the lucubrations of the theorists, or schemers, have been put on such a record. Singular indeed as these results have proved, contrasted with the facts asserted previously by the speculators, I think there is hardly ground for suspecting, as some have done, these warm advocates of wilful falsification. It is true the amount of air passing the Seaton Delaval upcast was found by the four Inspectors in December last to be barely half of what had previously been represented

drugs or draughts of spirits. Joseph Gott's illustration to the smiling lords upon the splitting of air—that the more holes were knocked in the bottom of his bottle, the faster the water would run out—is equally applicable to the escape as to the ingress of air. The more holes of admission there are to the bottom of the upcast, the faster will the air flow in, the less will be the drag, and the more effective the ventilation.

I wrote out for you, last autumn, a long paper upon the false reasonings throughout of the steam-jet men, illustrated by numerous facts, but one accident or another hindered its publication; and the progress of events and experiments have since made an amount of revision necessary, for which I have not had time, but I hope yet to send it you; for I think errors are never satisfactorily disposed of until their false principles are theoretically, as well as experimentally, exhibited. In the meanwhile, I can only recommend the present committee to keep themselves wide awake, with their eyes well open to whatever is brought before them. I am fully aware of the difficulties of their position. In an ordinary judicial tribunal, the judges are the most learned men in court. Even when there is a topic out of the ordinary course, a question of law reform for instance, the investigation is usually committed to the most competent. A commission of common jurymen, or even of specials, does not set to summon before them the Lord Chancellor, and other dignitaries, to learn from them by a few days' game at question and answer the whole scope of practical jurisprudence, and then leave off with the pretension to a better knowledge of the subject than even the examiners whom they learn from possess. Such a commission would be in great difficulties; and so of necessity are these colliery committees. The judges are the least learned men in the court. There is not a witness brought before them (except, of course, those absurd witnesses absurdly ignorant, who are sometimes summoned for some absurd purpose) who does not know more of the matter than the committee could learn, were the questioning extended to as many years as it is confined to days. It is, in fact, a comedy from the beginning; and the greater ought to be the indigenous intellectual efforts of the court to compensate for their important exotic deficiencies. They must shake up their faculties, and look closely into things, examine and cross-examine, and struggle with a physical grasp, to avoid those oversights so liable to their constitution. I will give an instance of what I mean. Suppose Mr. Gurney comes again before them with his lamp-glass and his natural brattice. He has displayed his little exhibition. The stopping is removed from the bottom of the glass; the philosopher looks modest, "mixed," as he candidly admits, "with some feeling of personal merit;" the mathematicians are charmed with the new principle in colliery ventilation mysteriously affecting human life; the professor is penning in thought a letter to the *Daily News*; the relative of the worthy author of a well-known treatise upon human wings is meditating a flight in the *Times*; the committee men look at each other and at the mathematicians; there is a majestic and a wondering silence, until an effort of common sense strikes out a cross-examination. Q. I think you said that was a lamp-glass?—A. Yes. Q. How long is it?—I cannot say exactly, about 8 or 10 in. Q. What is the diameter?—A. (looking at the glass) Perhaps 1½ to 2 in. Q. That is to say the length is about five times the diameter?—A. I should say nearly so. Q. Then this experiment with which you have favoured us is a representation of what might take place on kindling a fire in a corner at the bottom of a shaft 200 fms. in depth and 40 fms. in diameter! Sic ita et alia. Such are the flights which ingenuous minds are constantly taking when divested of the "drag" of physical incumbrances.

I see Lord Palmerston proposes to inflict a penalty for neglect of the recommendation of an inspector—a proposal founded, I presume, on the fact that two or three very serious explosions are alleged to have taken place after, and in consequence of the neglect of such recommendations. This looks very hard in principle; but I can see great difficulty in framing an effectual enactment upon it. It is not proposed to inflict this penalty merely when an accident is the result, but to make penal any, *a priori*, neglect of advice. Now, it will not be possible to levy any very heavy fine upon such a gravamen. Even were it to be aggravated as usual by a scale of first, second, and third offences, it could never be made to reach a sum at all fractionally commensurate with the enormous penalties which natural laws hang over the head of every owner who neglects the security of his property. I, therefore, presume this clause is merely intended as a sort of sharp sauce to the Inspector's dictum, in order to call attention—an accent, or mark of emphasis, upon his words.

I am sorry to see the baby work of foreign commissions going forward—enquires how we may best import *morality* and *material comfort* for Englishmen from abroad. You rightly say that some persons have a "*natural*" (more correctly unnatural) predilection for foreigners. How is it that foreign Governments do not send commissioners over here to enquire into the causes of our physical energy, in order to import that? When they want a man to do three days' work in one, they send here for him, *in corpore*, without the twaddle of commissioner's metaphysics. The incapacity, or dislike, to see anything good at home, I abominate as one of the worst of Whiggistica propensities. These talkers must always be meddling with something, and seeking to imitate all over the world, and *sport effects* which proceed from causes indigenous and unremovable—the fruits of time and place, and circumstances, out of human control, and equally inimitable, either by the education or the constitution monger. But this is essentially the age of imitation; it is even possible the characteristic appendage, long lost, may grow again. D. MUSNET.

THE MAMMOTH STEAM NAVIGATION COMPANY.

Sir,—The company is building a mammoth: the young animal is in the stage of gestation, or incubation, whichever is the proper term for the development of such embryos. The remarkable constitution of this company, which gives its capital the power to increase, will soon receive its first test by a draft of half a million, nearly half its whole amount, for a single steamer—engines, 6000-horse power; burden, 12,000 tons—three times larger than the largest commercial steamer afloat: thus the promise of the prospectus, which reached only to 8000 tons, will be more than fulfilled. I admire the spirit which, after a long term of wearisome delays and disappointment, is so unabated in its vigour as to burst forth in majestic developments. I will not pain the various whiggisms comprised in the direction, by recapitulating minutely the vicissitudes of hope delayed, making the heart sick, and postponing the appearance of the prospectus from May, 1851, to December, 1852: they know their expectations and their failures only too well—the tumults of one autumn, the dabbings of the next; but they are not cast down, "though fallen, not in despair." They have the innate energy of that great leader who used these words, and his versatility, for after losing the ardently contrived possession of the intense power of the smallest engines in the world, their soaring genius "shoots upward like a pyramid of fire" to accomplish the construction of the largest engines that were ever seen. Is it steam, or is it electric, that the "court of directors" will now honour with their patronage? for we hear that the engines are actually ordered. And it is plain the gentlemen of Gloucestershire, and directors of railways, have at present awakened to a high degree of speculative and intellectual activity. I feel sincerely sorry for the Australian Mail Company. There are fair and honourable men among the directors, as well as shareholders, who do not deserve to lose their money; but it is the fortune of war—that war which fills the gates of peace, the strife and strategem of manoeuvre and intrigue; in fact, in no company can all interested be always managing. Some one or more must take the lead; and a navigation company especially requires a chairman, a shipbuilder, and an engineer. It is not the first time that some individuals have been proved to be too deep for others, as Mr. Whishaw and many more can testify. At least, let us hope that the vessels will escape the deep; and that Mr. John Scott Russell's practice in the service of the Australian mail packets will enable him to avoid the leaks, if not in the first, at least in the second manœuvres. Undoubtedly a great deal of money will be circulated in the trade. Where the shareholders see the bottoms of their pockets, but to give the ships an equal inspection of the bottoms of the sea will hardly be adequate compensation for the unvarnished view. The other gigantic company, headed by Dr. Lardner, had calls to pay of 60/- per share, even after the *Great Britain* was got up again, sold, and the association buried. Nevertheless, let the present courageous and simple-minded men proceed with the mammoth. When the capital shall at length refuse to increase under the magic wand of their various conjurers, and gloom and despondency overshadow the countenance and the purse, the marine store-shop stands wide as the only apparent place for refuge and fractious restitution, let them appeal to me; I will show them the errors of their youth, in attempting to seize rather than to obtain; and duly contrite, which perhaps they are even now, they may at last acquire by the straight road that which too profound efforts in circuitous passages denied.

DAVID MUSNET.

THE COST-BOOK SYSTEM.

SIR,—Much has been written from time to time on the Cost-book System, and many of its peculiarities have been elucidated, but I am not aware if the general requirements and duties from the adventurers, committee, purser, and agent have been given; if not, I beg to subjoin a hasty sketch of them. I might remark that if the Cost-book Principle is obeyed, no adventure can ever be ruinously insolvent. The proprietary should meet once a month, or bi-monthly, to examine and approve the accounts presented by the purser, hear the reports read from the agent, discuss the position of the concern, arrange the financial business, and decide upon the future conduct of the workings. At such meeting every shareholder has a practical interest in the management, according to the proportion of his holding, and a suggesting power equal to any shareholder; consequently, committees with superior powers cannot exist unless the majority of shareholders may be said to constitute them. In addition to the usual cost-book rules, additional rules may be made and rescinded at any general meeting. When the meetings are dissolved, its affairs and the mine and mineral property are committed to the purser, who is expected to protect and manage it, assisted sometimes by a committee of shareholders, and always by the chief mining agent.

A committee may be appointed by the proprietary, at bi-monthly or general meetings, to meet at stated periods, to sign cheques for costs, &c., to advise the purser in minor questions or upon matters of difficulty; but if any subject is submitted involving any direct or incidental heavy expenditure of money, or if it is doubtful and important in its bearings or anticipated results, then a special general meeting of the proprietors should be convened to discuss and decide it. The purser is appointed and dismissed by the proprietary at a general meeting: his duty is to order materials, keep the cost-book, correct accounts of labour, of all cash received or disbursed, share-ledger and transfer books, to manage sales of ore, present his accounts duly vouch'd for the approval of shareholders at general meetings, and furnish an estimate of costs and returns for subsequent periods of working. The managing agent should have a sound practical knowledge of mining, and be competent to study the best and cheapest plan of working according to local circumstances, economise the expenditure, dispose of the active and mechanical labour in the most effective way, and concentrate it on the most desirable objects, exercise discretion and care in the employment and consumption of materials, bring the ores to surface, and sample or prepare them for sale on certain days, have fixed days for selling them, for setting bargains and paying the men, and attend to his duties in a close systematic manner, rendering weekly to the purser a report on the mine, and at all times to keep him informed of the condition and value of the workings, so that calls may be intimated to the adventurers and provided for, or dividends announced. J. D. London, June 15.

PRACTICAL MINING—ON THE LAWS OF NATURE.

SIR,—On looking over the correspondence published in this week's Journal, I discover, by a letter signed "Thomas Pill," that the opinion of the writer respecting the "twelve other mines which have been fairly tried by steam pumping engines" in his neighbourhood, is that these mines are unproductive and worthless, in consequence of their general strata being different from the strata in good mines. He says, *he thinks* that the strata in poor mines do not agree in their general character with those of good ones; and that "those who will pay a little attention to the matter will discover that the difference generally is strikingly perceptible" in most of the mines in and out of England.

Now, Mr. Pill, in his letter, does not say what is the difference in the peculiarities of the strata in those two classes of good and poor mines, whereby we may be enabled to form an accurate opinion respecting their future prosperity, but says that by a "little attention" we may easily discover the difference.

If, after a certain extent of mining operations, we could form an opinion with so much ease and accuracy as he (Mr. Pill) says, how is it that so many who call themselves miners (and who are such, and able ones, too) are so often misled in their opinions, when the general strata in so many mines as are reported are congenital for the production of ores?

There is still a large list of home and foreign mines now at work which have not as yet, I am sorry to say, sold ores, but whose general appearance, and the future prospects of which, if we take the printed reports of their respective confidential agents, are very promising, and such as to encourage the adventurers to hope that the result will be very different from the 12 others referred to by Mr. Pill in his neighbourhood. In looking over the correspondence published from time to time in the *Mining Journal*, we find that the reports, whilst referring to the strata in non-productive mines, are precisely similar to those furnished by productive ones, minus the all-important desideratum—minerals.

If Mr. Pill will be a little more explicit, and state, through the medium of your Journal, what are the minute and important features (of which he has a knowledge) that are so peculiar both to good and poor mines, he will furnish desirable and most important information to many, and oblige your most obedient servant—A CORNISH MINER: June 13.

LEAD IN GRANITE.

SIR,—In reading your valuable Journal of the 4th instant, my attention rested on that portion of Mr. Ennor's letter where he states, "Near the River Teign the granite ridge is crossed by a channel of tenacious blue clay, running north and south, and dipping east, which appears to set its bounds." Now, any one might infer from Mr. Ennor's letter, that this channel of tenacious blue clay, or flockan, cuts the granite in two. Perhaps Mr. Ennor will excuse me in telling him that the channel of tenacious blue clay above alluded to does not come near the granite ridge to cross it at any point, as the position of the granite and the channel of clay are so as to render it impossible, if we refer to Nature's laws. The granite ridge, which is to the west of the channel of blue clay, is running nearly parallel with the north and south lode in this district; it has been proved so at different points which have been explored more or less for a distance of eight or nine miles, which is from near the coalfield at Bovey Tracey, the southernmost point, to Dunsford parish, the northernmost point; so it is clear, from the direction the respective channels are running, that they cannot come together, being three quarters of a mile distant at their nearest point from each other. I should think it, of course, evident that those channels in continuing their course cannot possibly penetrate each other, either north or south. This channel of flockan is running parallel, and accompanying the lode (underlying easterly the same) which has proved so productive at Wheal Adams, Exmouth, and Hennoe, making at times sudden twists, but still keeping a uniform direction; and where it comes close on the lode, we generally find a deposit of lead, either more or less. J. CORNISH. June 15.

ON VOLCANIC ROCK IN RHOSWYDD SLATE QUARRY.

SIR,—Seeing the prospects of this quarry in your widely-circulated Journal of last week, with Mr. T. M. Smith's report—with which, I must say, I generally agree, it having every appearance of being an honest report, and not being embellished with a guarantee of its paying from 30 to 40 per cent., as many of these new things of the day are. He says, "there is no reasonable doubt but it will prove an advantageous investment." I have been twice over the ground, and I am not inclined to dissent from his views on that point, if carried out with skill and economy; but there are a few other remarks of Mr. Smith's that I do not fall in with. First, where he holds out the superior advantage likely to result in this quarry from there not being any hard rock in proximity to the vein, which is quite contrary to the views I have hitherto taken on slate formations. For 20 years past I have carefully watched every quarry of note in Wales and the west of England. In Wales, the slate formations are in veins, or, rather, what may be termed lodes, passing through hard runs of trap, hornblende, or greenstone; where these runs or veins are divided from the harder rocks by a soft clay substance the stone is more fine and flexible—it gives it a cleavage. I think, if Mr. Smith was to examine the Welsh Slate Company's quarry, or Mr. Matthews's, he will find they have each hard rocks proximate, and a large quartz vein running parallel with them on the north side. If he goes east, to Lord Newberry's quarry, or Mr. Casson's, he will also find the dense hard rock proximate; or, even if he goes to Bangor, or any quarry in that district, he will also find all their slate veins between parallel hard rocks, and where the veins are expanded, and showing hard irregular divisions, the slate will be found of an inferior quality. The English slate quarries are much more difficult to be found than the Welsh quarries. In England, slate is formed in beds, or even mountains, taking about an east and west direction for miles in breadth, with no well-defined sides. Good slate quarries are there only found near quartz veins, that carry a clay on their sides; these veins are but slightly metalliferous. Where the veins are productive of ore, I have

never seen good roofing slate produced; it is not even fit for building stone, as it decomposes and falls to pieces. I think Mr. Smith will find, if Rhoswydd Quarry turns out a productive one, there will be hard rocks proximate. As regards the discontinuation he mentions of the vein east, I do not consider that an unfavourable indication: it is nothing more than what is called a fault or heave, as all veins or lodes running about east and west are subject to; it is more likely to keep the slate fine. This shift is south, and what is commonly called a right hand heave, and brings the slate vein into Lord Newberry's quarry.

In reference to their being cut off by volcanic action, I think but little of. It would be a most singular thing if these runs of trap or greenstone rock were produced by volcanic action, leaving a space for a bed of fossiliferous slate rock (from 40 to 100 feet wide, dipping north at an angle of 45°) to form between. Then, I ask if the upper layer of trap or greenstone was exempt from the law of gravitation, or if the upper and lower beds were formed at distinct periods? In that case the slate rock must have been there before the latter formation. If produced by volcanic action, the great heat would have totally destroyed the cleavage of the bed of slate. Being always desirous to learn, I should feel obliged if Mr. Smith will set me right on these subjects. Wiveliscombe, June 9.

MINES NEAR LISKEARD.

SIR,—In my late round through Cornwall, having occasion to examine some mines in the above locality, I was pressed by some friends to spend a day in going over the lead mines in Menheniot district. We first visited Trelawny, Trewhane, and Mary Ann, where we found the agents active intelligent men, quite ready to answer every query. They accompanied us through the mines, pointing out the matrix of the lodes, and the nature of the stratum, where productive and also where unproductive. It is a run of slate which needs no comment. From thence we proceeded to Trewartha, where we found a healthy young mine, producing good lead ore, with a captain ready to give every explanation required. I was then requested to look at North Trelawny, where we found the mining agent to be absent on business; but the captain by proxy, a spirited fellow, said "It matters not, our mine will bear inspection; here are clothes, go and see it." I did so, and a promising mine, just opening, I found it to be. I then took French leave, and went into an adit on the opposite side of the hill, which is also a new mine on the same lode, known as Wheal Ludcott. After which I proceeded to Wheal Wrey, where I found an active young agent, who made strong remarks on the prospects of the mine. I said he appeared a little too sanguine as to results; he very properly said, "See for yourself." On proceeding to do so, I found there were no clothes to shift, at which I was rather disappointed, when he took off his own coat, saying "Take that; you must see it." These are things that quickly tell me if mines are in a healthy state.

Having worked in, managed, and inspected as many lead mines as but few men in the kingdom, I毫不犹豫地 say this is as promising a lead district as any I was ever in. The stratum is evidently congenial for lead, where every lode is found running in about the direction of the more productive ones: they will produce lead at some point. Parties inclined to speculate should take up all the ground for miles round, and commence a regular system of coexisting through each sett, at right angles to the lead-bearing lodes. When a lode is found, no portion of it to the amount of 20 yards should be left without a pit, as I find all these lodes bear out my former remarks, where I stated, "Every productive lead lode bears fruit at some point within the reach of 6s. well spent from the surface; 100/- will go a great way in coexisting."

In conclusion, I cannot refrain from remarking on the great contrast between the agents of these mines and many others I fall in with. I was requested by a friend some time since to endeavour to find "gold in England"; when, after a hard day's ride, I arrived at a mine where gold was said to be found. On enquiring for the agent, one was pointed out, who took a distant squat at me, and probably thinking, as the Quaker did when he saw the bailiff—"Thou art no pleasant customer," slipped into a house, and was lost. I then rode up to the workings, hitched up my horse, and went in search of the precious metal. On looking around I discovered a man peeping from behind a heap, just as you would see a boy playing at hat-ball, fearing the delivery. I walked up to him, and asked if he was the agent, with a few other questions, which he did not appear inclined to answer. My horse getting restive, and being amongst pits, I requested him to stay a minute while I removed it. To my surprise, when I returned, he had decamped. After going to the summit of many hillocks, I at last caught sight of him 100 yards off. I quickly jumped on my horse and rode after him, when he made a good foot—a laughable sight, only to be compared to a mounted police after a runagate. Thus ended my search for gold in England.

Wiveliscombe, June 16.

NICHOLAS ENNOR.

THE COPPER TRADE.

SIR,—Mr. Hill's defence of the smelters is all fudge; and what is more, I believe he knows it to be so. Has not the copper trade presented to us all the worst features of a monopoly? Have we not seen the price of ores depressed so low as to ruin some of our deep mines? and again, more recently, seen the price of copper so high as to ruin many of the small and greatly embarrass the larger manufacturers? And has not this, in the true spirit of monopoly, been done without any reference whatever to the intrinsic value of copper—viz., its cost of production to the miner, or its value in use to the manufacturer? Will Mr. Hill venture to assert that the smelters compete fairly for our ores, and do not apportion them among each other at a fixed rate of price? Or that we have a fair produce, founded on a correct analysis, instead of an assay incorrect, fluctuating, and dishonest? Are we not deprived, by the want of honest competition, of the advantages to be derived from other minerals accompanying our ores, as in the instance of argenticiferous copper ores, which are notoriously apportioned to Messrs. Vivian and Sons, and Messrs. Sims and Co., exclusively? Can we ever hope to see, under the present system, any improvement in smelting, or a reform of abuses, unless we make the effort ourselves? That effort, brother miners, should be directed to destroy a monopoly which depresses industry, retards the march of improvement, and is mentally and morally a degradation: then, and not until then, can we hope for a better state of things.—A MINER: Redruth, June 14.

THE COPPER TRADE.

SIR,—I observe by your Journal of last week that a meeting of persons interested in copper mines was held in London, to take into consideration their position, as regards the sale of their ores. This is making a move in the right direction; and, if energetically carried out, cannot fail to be highly advantageous to their interests, but I trust they will not adopt any half measures, or they will only place themselves in a worse position than they are at present. Their course to pursue is an obvious one: let several of the large mines form a coalition together, and smelt their own ores, at the same time coming to an understanding with the large consumers of copper that they should purchase their produce at such moderate prices as might be agreed upon, and which would at once place them in such a position that it would not be in the power of the present purchasers of copper ore to control the market, and give any prices they may think proper. The advantages to the consumers of copper would be so great, that they would readily enter into such an arrangement, as at present they are quite at the mercy of the smelters as to what price they may choose to sell their copper; and it is quite impossible for them to enter into extensive contracts with safety, as very probably the price may be advanced ruinously high before they can possibly complete them; this I know was the case in numerous instances during the advance that took place in the autumn of last year. The capital required for the erection of works to carry out smelting operations to a large extent would be very moderate, and the great profits would soon repay the mines for the outlay; but should the mining companies find any difficulty in raising the requisite capital, it would be an excellent speculation for a company to be formed to smelt the ores on commission for the mines, still having the same understanding with them, as well as with the consumers of copper, as if the mining companies smelted themselves. There is one subject amongst many others to which I would call the attention of the miners—namely, the immense difference in price that is paid at the ticketings for the ores of different mines, for the same per centage of produce, the reason stated by the purchaser being that the ores of some mines are of worse quality, more difficult to smelt, and make inferior copper. Now, nothing can be a greater fallacy, as there are no ores raised, particularly when mixed with the general average, that cost any more to smelt, or from which the finest copper cannot be produced; but an outcry is raised against them, for the purpose of getting them cheaper.

This is only one of numerous other facts connected with the copper

trade, and highly injurious to the mines, particulars of which I shall be happy to furnish to the committee, if it is really their intention to act with energy, and free the mines, as well as the consumers of copper, from their present position, and place them both in such a position that so important a part of our national industry ought to hold.

Sewanee, June 14.

ANTI-MONOPOLIST.

THE COPPER TRADE.

SIR.—I am pleased to see a spirit of resistance on the part of the friends of the miners to the unjust exactions of the copper smelters, as it may, perhaps, eventuate in the establishment of smelting works by some of the largest mines. Can any of your readers inform me what has become of the several independent joint-stock copper companies that have existed within the last 30 years or so?—viz.:

The Union Copper Company
The Hayle Copper Works
The Rose Copper Company
The British Copper Company

The Crown Copper Company
The Birmingham Copper Company
The Caledon Copper and Brass Company,

and one or two other companies and private firms (Smith and Co. to wit); and what dividends are being paid by the Mines Royal Company, Australian Company (Messrs Schneider's), and how the shares in the new English Copper Company stand on the list? Of course, all the aforesaid companies, and many other spirited individuals connected with copper smelting, have reaped large sums from their investments (?) it being such a profitable trade.—A DEALER IN COPPER: *London, June 13.*

ELUCIDATION OF THE EXPANSIVE PROPERTIES OF STEAM.

SIR.—In the *Mining Journal* of last week appears some remarks from Mr. Peter Spence. So far as they have exclusive reference to what Mr. David Musket has written upon the subject, that gentleman is quite competent to defend himself; but as Mr. Spence implies that I am, like Mr. Ericsson, building upon a sandy foundation, you will much oblige me by inserting the accompanying brief-table, which will give Mr. Spence full opportunity to expose my fallacies, when he has discovered them. The table is based upon the supposition of a given volume of steam at 1 lb. pressure, having in its defined weight of water, which we will take at 1 oz., and that the same volume of steam at 400 lbs. has in it 400 ozs. of water. If we now take one ounce weight of the steam at 400 lbs. to represent 200 by its density and latent heat, as given in column 1, then the dilation due at that pressure to the increased sensible heat will represent 140, as in column 2, and the whole effect, before cut off, is that shown in column 3. The amount due to each expansion is uniformly 150 from density and latent heat, as shown in column 1; and the average effect for each expansion from dilation by sensible heat is given in column 2, and the total of each expansion is given in column 3; and at the foot of column 3 is the total effect producible from all the expansions and the steam before it is cut off.

Due to density.	Due to dilation.	Total.
At 400 lbs. before cut off	260	140
Expansion from 400 to 200 lbs.	96	340 before cut off.
Ditto from 200 to 100 lbs.	150	78
Ditto from 100 to 50 lbs.	150	63
Ditto from 50 to 25 lbs.	150	45
Ditto from 25 to 12½ lbs.	150	36
Ditto from 12½ to 6¼ lbs.	150	24
Ditto from 6¼ to 3 lbs.	150	12
Ditto from 3 to 1 lbs.	150	6
		156 eighth ditto.

Total of all the expansions and effect before cut off 1903

for a road or railway completed. Should such a tunnel be of considerable length, and exposed to much violence from the water, it would require strong piers at intervals to keep it in its place. But the expense of these erections would not be so great as on land, as they would be constructed without the least ornament.

The above description is necessarily very short, and the practical engineer will at once see difficulties that will have to be encountered; for instance, in laying the tunnel upon such a foundation, under water, as shall be sufficient to support the weight that is intended to be passed along it, and in such a way that the pressure shall not bear upon the tunnel to open the seams. But his experience will teach him how to overcome such impediments, and being the project to a successful issue.

No doubt many of your readers will view this project as a chimera, not for a moment to be thought of. But, Sir, I do not forget that one of our most eminent journals, which shall be nameless, refused to publish, so recently as 1849, a description of a plan by which I proposed to lay the submarine electric telegraph between Europe and America, and shortly afterwards treated the proposition as the dream of an enthusiast, "fitted for Bedlam." A very short period has, however, shown what engineering can accomplish. Through the instrumentalities of the talented and spirited Messrs. Brett, Great Britain and the continent are now united, and the line is about being connected with Algeria on the one hand, and America on the other, and it is probable that in a very short period communication will be opened between London and Calcutta, through the medium of this instrument. Who, then, shall place a limit on the results of engineering skill?—*Portsmouth, June 9.*

JOHN J. LAKE.

MOUATIS'S IMPROVED SYSTEM OF RAISING WATER.

SIR.—I had the satisfaction, some time ago, of announcing that a few specimens of the new syphon brought forward by Mr. Mouatis, for the inspection of the public, were to be seen and tested on the premises where they are manufactured, in Orchard-street, near St. Luke's Church, and having tested them I find that they come fully up to what I was led to expect from the description given of them.

The water is raised entirely by pressure. First, with one cylinder by the atmosphere to the height of 25 ft., and by the piston 25 ft. more, making 50 ft.; this is done by the hand, with as much ease as with a common pump at 25 ft., and by attaching the piston rod of another cylinder to the same handle an additional height of 25 feet is obtained from the pressure of the atmosphere, by moving the two pistons with the same rod or frame; very little additional pressure by the hand is required, and the piston will raise the water as before, by the same means. These remarks are for the benefit of those of your readers who, from distance or other causes, it is not to be expected will visit the premises where they are manufactured. Those who will see a specimen of the valves to be used; the double valve is fitted to allow the passage of the water without any friction, and may be increased in the number and size of the rings to suit pipes of all sizes.

The above only embraces a part of the views of the patentee: who, having brought forward the power he means to use, and the raising of water in stages, the connecting rods or frames, under a new protection to his former patent, is now taking in orders from enquiring parties, and will grant licenses to fit up his water-raising apparatus in any quarter where it may be required, and to any extent. Those who are provided with steam-power, and requiring repairs, would do well to consider of the propriety of adopting this manner of raising water, particularly from all sorts of mines; it will do away with all high-pressure on the pipes, lessen the expense of keeping up the wear and tear by such high pressure, the atmosphere being the principal agent in pressing the water upwards in the pipes. A great part of the old fittings may be wrought up, such as the pipes, the cylinder cut into short lengths, as also a great many other parts. This is a consideration. To public bodies and companies requiring a supply of water for cities and towns, this water-raising apparatus is highly applicable, a good supply being so necessary for the health and cleanliness of all classes, and which may be obtained by this means to any extent, and at a great saving of expense. The patentee has already been applied to about fitting up an apparatus for the supplying of water to a great extent, both in height and quantities.

London, June 15.

AN ENGINEER.

[ADVERTISEMENT.]

THE SMOKE NUISANCE—ITS PREVENTION PRACTICABLE.

SIR.—After the appearance of my letter on the 25th May, I was very sorry to learn that Mr. Charles Wye Williams disapproved of any mention of my interviews with him in a public Journal; and, further, that we did not agree in our recollections of what had passed between us on those occasions; wherefore, in the course of a correspondence that then ensued, I did not fail to explain to him why I considered our conversations to have a public reference, founded as they were upon preceding communications in the *Mining Journal*, in which his name had been continually quoted, nor yet to apologise for not having specially consulted his wishes on the subject of publication beforehand. Nor did I neglect more concisely to state in my letter to you the points upon which I still assumed we had apparently agreed, as well as agreed to differ; and I thereupon frankly offered to write such a letter to you as might be acceptable to him, and in accordance with the facts, without being dishonorable to me; yet, with no expressed dissent on his part to that proposal, and without any intimation to me that he considered our correspondence to be concluded, I now find him associated with Mr. Henry Dircks, in a joint communication to the *Mining Journal* of the 11th inst.

My regret, as personally regards Mr. Williams, being in consequence materially diminished, I beg leave to apply myself, without further remark, to the new portraiture of the affair (to which a title and framing have been given, with his characteristic ingenuity, by Mr. Dircks), feature by feature in the order of their arrangement, and precisely as delineated by Mr. Williams.

1. Mr. Stevens says, "I did not disapprove of the construction" of his furnace; neither did I approve of it. It is not, however, courteous, or even of any avail, to suppose an inventor that his views are erroneous, or his plans defective."

It should be remembered that the primary object of my visit to Mr. Williams was to obtain his opinion of my invention; and he cannot have forgotten that my very first act, upon being introduced to him, was to place in his hands diagrams and descriptions of it. The courtesy, therefore, which could have prevented the declaration of his disapproval would have been overtly an untruth, of which I could not have believed he was capable; and which he did not commit, as I shall presently show: first observing that the sneer conveyed in the words "supposed inventor" does not proceed with much grace from a gentleman to whom I was presented by a mutual friend as the *courted* inventor, and who in that character was invited by him to a second and much longer conference at his own house.

2. "As to novelty, there certainly is none in it; and I showed that, on the main ground of effect—the admission of a certain quantity of air—it was only a repetition of Parkes's well-known split bridge, of which I showed him a drawing. As to the supplemental grate, it is exactly what I see in a drawing now before me, of one of Mr. Chantler's furnaces."

Recollecting that at this second interview—the one at present in question—which occupied about two hours, Mr. Williams was so seemingly anxious, and then I am satisfied in the most friendly spirit, to indoctrinate me with the essence of all he had written and said on the subject, it is not surprising that his memory remained much less impressed with the (to him unimportant) references that were incidentally made to my invention. Hence he must have forgotten that when he showed me the drawing of Parkes's split bridge, he not only admitted, as far as that bridge is concerned "what no one can dispute," the difference between an aperture for the admission of air, commencing, as mine does, above the fire-bars, and that of Parkes's far below, at the bottom of the ash-pit, but that he positively said the introduction of the air by my contrivance was "much better," although he denied that it was heated, and explained his reasons why. He assuredly also said that there are no *useful* parts in my furnace, but that there is *no value in it*; for he certainly did admit *useful combinations*, which was all I could expect from him; and which combinations I am prepared to sustain against whoever may be disposed to test my patented claim to them. Upon the consideration of the last sentence in the second paragraph, I enter with some apprehension that Mr. Williams has been so far excited, by extraneous circumstances, to assist in silencing me, if possible, as to travel entirely out of the record, and to join in the use of means unworthy of an educated and candid mind. Whatever drawing of one of Mr. Chantler's furnaces" he may have had before him when he wrote his letter of the 6th inst., he produced none; neither did he refer to any when I saw him at Liverpool. Probably it is a drawing of the original, referred to by Mr. Dircks in your Journal of the 7th May, when he described my invention as "the sole imitation of a Chantler's furnace." It is for that assertion, among others, that I hold Mr. Dircks in mortal detraction, declining to discuss any matter subsequently propounded by him, until he shall have proved those statements, absolutely rejected them, a determination to which is still adhered. But, whether I am right or wrong in that surmise, as Mr. Williams, in this instance, refers to a *tangible thing*, a lineal description, that can speak for itself—that is perfectly independent of his or my imperfect recollection—I ask him, in common fairness, to send me a wood-cut of that drawing, and identifying it with some invention or patent of Mr. Chantler, to leave your readers to judge how far it may be practicable or legally interfered with by mine, and how far Mr. Williams is justified in his gratuitous assumption.

3. "As to Mr. Stevens's theory of combustion, both as regards its basis and application, I repeat, what I wrote Mr. Stevens, that he broached my new theory of combustion to me, and that I did not understand what he meant by 'its basis and application.'"

Quite satisfied with the ascertained practical efficiency of my furnaces, and fully occupied in extending their application to the admitted advantage of those by whom the invention is encouraged, I beg leave to withdraw the assumption that Mr. Williams "disagrees with my theory of combustion, both as regards its basis and application," on the ground that, as he himself says he does not understand it, he cannot be supposed to disagree with it; and especially to express my regret that in this respect I misunderstood him. Nay, further, I am quite content to have it assumed by him that I was too formal and presumptuous in using such a phrase as "my theory of combustion" and henceforward have substituted for it the more diffident expression of my *idea*; until my business engagements in the way of practical demonstration shall leave me leisure to enjoy the intellectual gratification of reasoning with some more congenial opponent—a period that, if Mr. Williams and Mr. Dircks, *et cetera*, be correct in their present assumptions and predictions, cannot be very remote, notwithstanding the testimonies in my favour to be found in your columns.

4. "As to my 'disinterested testimony,' most assuredly I gave no testimony in favour of any part of his plan, and even characterised all plans for 'smoke-burning' as absurdities."

When I really do thank Mr. Williams, or any other gentleman, for "disinterested testimony" in favour of my "smoke-burning," it will be soon enough to appreciate the disclaimer. It happens that I never have, nor am I ever likely to, set up as a smoke burner; neither can I discover when or where I have in the most inadvertent manner said a word, or written a sentence, to warrant such a conclusion. Mine are means professedly "to prevent the formation of a smoke"—"to reduce its emission to a minimum." Nevertheless, I am not surprised that Mr. Williams's lapses of memory as to some circumstances should be accompanied by most erroneous conceptions with reference to others.

Having to this extent repelled the imputations against my veracity, jointly made by Mr. Williams and Mr. Dircks, and put the former to the same proof as the latter, I sustain that (if it can be sustained) of an assertion unnecessarily, if not wantonly, imported into this discussion by both; I acknowledge, with much pleasure, the graceful expressions, of a friendly nature, contained in Mr. David Musket's letter, also appearing in your last Number. At his hands I could accept correction with much composure—with him I could pursue the controversy on combustion in a proper spirit, earnestly seeking an accurate conclusion, whether favourable or otherwise to

my own previous ideas, and satisfied that there is as much credit in being convinced of error as there is honour attributable to the first who first conceived of a philosophical truth. Almost incessant commercial occupation, however, debars me from this. Respectfully, therefore, as well as reluctantly, I must decline his implied invitation to follow him in a written examination of the subject; but I should be very gratified by his allowing me to show him my furnaces in operation, that I may have a reasonable chance of convincing him that practically I do subvert "the smoke nuisance," and produce a most important saving in the consumption of fuel, although theory professes that by my means such results cannot be attained.

King William-street, City, June 13.

JOHN LEX STEVENS.

ROYAL HIBERNIAN MINING COMPANY.

SIR.—As one of the directors who remained behind with our chief and leader, and it having been asserted by some that Mr. Henry Gibson would have taken Clogher to this. Respectfully, therefore, as well as reluctantly, I must decline his presentation of this mine was obtained; and the hour after he got possession of the property he accompanied the other directors to the spot, when, to our surprise, he set on from 40 to 50 of the peasantry, and in less than 30 minutes, out the surface ledge, and we all filled our pockets with pure silver-lead. He was rejoiced at what he did; and at once said,—"This gentlemen, I give over to the company, as their sole property." He has done so; and those assertions are base and false, and hurtful to that gentleman, who had this undertaking so much to heart, and which I know he still continues to have.—H. ALEXSMITH: *London, July 16.*

THE GREAT CRINNIS MINE.

Saturday, the 28th of May, 1853, will be a memorable day in the annals of this remarkable old mine. After a quarter of a century of enforced sterility, she promises again to become a mother; and, as far as probabilities, amounting to almost certainties, can justify a prophecy, there is safety in saying that the fertile old dame will give birth in due time to as promising a family of plump healthy nuggets as ever rejoiced the heart of an Australian digger. The infant will be copper-coloured instead of golden; but the transmutation of metals, that puzzle of the ancient alchemists, is now so well understood in Cornwall, that copper and gold have become convertible into a distinction without a difference. "Old Crinnis," as the miners of St. Austell affectionately call her, is beautifully situated—marked a more picturesque spot to be found in all Cornwall than that she has made choice of to locate her numerous lodges. Seaward, a magnificent bay, bounded by a lofty rocky coast, everywhere showing highly mineralised rocks, with unmistakable indications of copper; a beach that would make the fortune of a sporting-place; and what is, perhaps, of more practical importance, admirably adapted for landing vessels when required, as it certainly will be required by and bye. inland, a rising wooded prospect, studded with hamlets and cottages, extending to the horizon, to whom Great Crinnis has paid a splendid fortune in dues only, forming a conspicuous object in the landscape; while the engine-houses and chimney-shafts of a score or two of neighbouring mines are features conspicuously ugly in every one's eye except those of miners and mining adventurers, who think them the very quintessence of pictorial beauty.—an curious instance of visual deception, often found when the optic nerve ends in the breeches-pocket instead of in the brain.

This beautiful spot, so enriched by Nature in every way, was the scene of considerable excitement on the day above-named. For some months past the mine had displayed an animated appearance; machinery of all kinds had been employed in considerable numbers; carpenters, bricklayers, and masons, busy erecting the engine-house, and out buildings; engineers putting up the 65-in. engine that is intended to force the water, and open the way for many hundreds of men, women, and children, to be employed for a long series of years to come. The London board of directors had come down the preceding night, accompanied by Mr. Manuel, their sole and indefatigable secretary, Mr. McConnel, the locomotive superintendent of the North-Western Railway, who is a considerable shareholder, and some French gentlemen, who, holding a large interest in the property, had travelled expressly from Paris to be present with their brother-shareholders at the interesting ceremony of starting the engine, as well as to acquire a more intimate knowledge of the promising speculation in which they have embarked their capital. These gentlemen were joined by many others interested in mining; by several "captains," as the agents of mines locally called; Colonel Carlyon having sent a written apology for his absence, which was unfortunately attributable to severe illness; about a hundred workmen and miners completed the human part of the panorama, and at three o'clock the piston made its first stroke, amidst the hearty cheers of all present. Nothing could be better than the start, and both Mr. England and Mr. McConnel, themselves eminently practical men, second to none as judges of such work, pronounced the engine perfectly satisfactory in every respect, and expressed their great surprise that so much had been done in so short a time, and done so well. Only nine weeks had elapsed since the foundation stone was laid, and in that time the engine-house had been built, and the engine was actually commencing those operations which will only cease to beat after many long years, and then only to be replaced by another of still higher power, better adapted to develop the riches of the mine—riches which will surely increase in value as the workings get "deeper and deeper still."

In the evening a large party of the shareholders and gentlemen of the neighbourhood dined together at the White Hart Hotel, St. Austell, to celebrate the event of the day.—GROZON ENGLAND, Esq., in the chair. After the usual loyal toasts had been disposed of, the chairman rose to propose "Success to Great Crinnis Mine," which was prefaced by congratulating the shareholders on the present satisfactory and promising condition of their property. When first he had been applied to by his friend, Mr. Dudot, to become a director, it was with great reluctance he consented to do. He felt that, as a man of business, whose time was already fully engaged, it was scarcely possible he could give the affairs of a company that attended which they would necessarily require at the hands of all those undertaking its formation and management. (Hear, hear.) He also felt that, being entirely ignorant at that time of mining matters, it was scarcely consistent with common sense that he should be called upon to assist in working a copper mine. He also entertained, in common with a great many London people, an opinion unfavourable to mining adventures generally, and really thought that such speculations were something like horse racing—scarcely creditable affairs for plain men of business to mix up in. Another opinion he found very prevalent—folks said that all miners were no better than they should be—that Cornish miners in particular were utterly indifferent as to whose pocket they sank a shaft into to *fork out* the metallic contents, and that of all the Wisp, leading on unlucky adventurers to their ruin. (Great laughter.) On enquiry as to the probable value of Crinnis Mine, he was told that she was worn out—that she was so full of water that all the engines in Cornwall could not pump her dry—that she had sprung a leak somewhere under the British Channel—and, in fact, that it was about as worthless a speculation as any one could possibly embark in. This was not very encouraging; but he had made it a rule through life to examine matters for himself before deciding upon their value. He knew that people will often give opinions on-hand on subjects they know nothing about, and that, unless good reasons were given for an opinion, it was worth but little. He had, therefore, before deciding one way or another, taken some trouble to ascertain the truth; and he was bound to say, that the more he enquired the better he liked both mining and minerals. (Hear, hear.) He found that the former, if carried on with ordinary judgment, was a highly profitable and legitimate business; and the latter to be as intelligent and honest a class of men as any in England, if not, indeed, above the average. (Hear.) He also found that Great Crinnis Mine, so far from being exhausted, had scarcely been worked at all; that all the immense riches which had been dug out had been chiefly found in one hole only out of the many known to exist. He had, together with other friends, come down to Cornwall, and although he had taken some pains to get a bad character of Great Crinnis, he was utterly unable to succeed; every one, from Colonel Carlyon, the lord of the manor, down to the working miner, seemed to have but one opinion as to the certainty of riches being found if she were opened with spirit and judgment. He was also happy to add, that only one opinion was entertained of Capt. Webb, the agent of the mine, and that opinion was the highest possible—a man of greater integrity or more matured judgment did not exist in the country (hear, hear), and so far the shareholders were in good hands. Nothing could more satisfactorily prove his ability than the event which had been the means of calling them together this day. In all his own experience as an engineer, which had been pretty extensive, he had never known work more energetically carried on; and he took this opportunity of saying, that the manner the engine had been removed, erected, and set to work, in so short a time, redounded much to the credit of both Mr. Loom and Capt. Webb; and in this assertion he was fortified by the opinion of one of the best judges in the three kingdoms, Mr. McConnel, who fully agreed in his point of view. In conclusion, he begged to say that he had the most perfect confidence in the success of the enterprise in which they were mutually engaged, and that but a very short time would elapse before those who are now sceptical, if any such there be, will become devout believers in the wealth of Great Crinnis Copper Mine, to whose success he now called upon them to drain a bumper, with three times three of their heartiest cheers, and in both these agreeable operations he would add, that "England expects that every man will do his duty."

The next toast was the health of Mr. Loom, the engineer, and Captain Webb, to which those gentlemen replied in very appropriate terms, both expressing their satisfaction in having to deal with a committee possessing such business talent.

Mr. McConnel then proposed the health of Mr. James Cobbett, chairman of the directors, and the rest of the board, together with Mr. Manuel, the secretary of the company, in an eloquent speech, eulogistic of their services. Mr. McConnel took advantage of this opportunity to allude to a plan for elevating the mental and moral condition of the Cornish miner, which had been suggested by Mr. Manuel, and to which he begged to call the earnest attention of all interested in the welfare of that industrious and naturally intelligent body of men. Mr. Manuel, knowing the primary importance of education, and also knowing that few means exist in this neighbourhood by which any but the mere rudiments of education can

by Mr. M'Connell, it was a pleasure to him to find his child was likely to thrive so well. Every one to whom he had mentioned the idea approved of it, and in time he hoped to see those good results realized which had invariably followed the introduction of such societies in other places.

The CHAIRMAN then said that a gentleman was present, whose connection with Great Crimrie Mine, when in full work, and producing those immense riches for which it was so famous, made his presence now peculiarly interesting and appropriate. He begged to propose the health and prosperity of Mr. Daniels, formerly the purser of Great Crimrie, a toast which was warmly received.

Mr. DANIELS, in returning thanks, expressed his full confidence in the success of the undertaking. The mine ought never to have been abandoned, nor would have been, except from the adventurers having got into that abominable receptacle of lunatics, called Chancery. If the mine produced so much wealth in those days, with imperfect machinery, and from such shallow workings, and with notoriously bad management, what might not be expected from the machinery and improved knowledge of the present day, combined with the fact that the mine is little more than scratched open? He believed that mining was still in its infancy. The mighty giant, Steam, would apply his wonderful power, directed by the hand of science, and every succeeding year would prove more and more that Cornish mines offered the best possible investments for capital, and the best field for enterprise.

Dr. PEASE, of St. Austell, in replying to the toast of his health and prosperity, stated, a fact interesting as showing the opinion of that locality of the prospects of success of Great Crimrie. He had himself collected as much as 30,000/- in a few days, to form the nucleus of a capital for working the mine; a very large sum compared with the resources of a country town, and a far larger sum than to his knowledge had ever been collected before in that neighbourhood for any purpose of the kind. He had no doubt of the speculation fully repaying all concerned.

The CHAIRMAN next proposed the health of the foreign shareholders, coupling with the toast the names of gentlemen now present—viz., Messieurs Lohse, Piermann, and Bernard.

Many other toasts were warmly responded to, and the party separated, highly pleased with the progress and prospects of the undertaking.

BLAENAVON IRON AND COAL COMPANY.

A special general meeting of shareholders was held on Thursday, at the offices of the company, Pancras-lane.—R. W. KENNARD, Esq., in the chair.

Mr. JOHNSON, the manager, having read the notice convening the meeting,

The CHAIRMAN explained that the shareholders were called together to take into consideration the report of a committee selected to examine into the policy of erecting a new forge and mill at Blaenavon, and as to the best mode of carrying out the same. The committee, having been appointed by the shareholders from their own body, he thought it desirable they should explain their own views, before any remarks were made by the directors. The meeting was called for a particular purpose, the discussion of the report, and he was of opinion they ought to keep to that subject.

A long discussion arose as to the powers of the meeting, and also the refusal of Mr. J. Hill and Mr. T. Hill to agree with the report of their fellow committee-men.

The CHAIRMAN said the report was signed by four out of six, and founded upon a resolution signed by Messrs. Hill.

Mr. JOHNSON then read the following resolutions:—

That it is expedient that a puddling forge and mill for rolling ship plates and other iron be erected at Blaenavon, to replace the present forge and mill at Garndyrys.

That the manager be requested to furnish detailed plans and specifications, for the purpose of obtaining tenders for the erection of the same; and that with reference to this outlay, the present financial condition of the company be fully considered, as also the subject of the lease.

The report was then read, which was in conformity with the resolutions.

Mr. J. BRAMWELL said, he had been down to the works, and made every possible enquiry into the subjects being anxious to place the company in a proper position.

Mr. T. Hill had asserted that the proposed mill and forge would cost 30,000/-, but he could get one of the first manufacturers in the kingdom to erect the works for 12,000/-; and he had no hesitation in saying that within 12 months it would clear its expenses, as they would be enabled to keep their furnaces employed in making iron, which would fetch the highest price in the market. It had been objected that their lease had only 10 or 17 years to run; but even if it took two years to clear the expenses of the works, the carrying out the suggestion of the committee must be for the benefit of all. He should conclude by moving "That the directors be requested to act upon the report agreed to by two-thirds of the committee, so far as the erection of a forge and mill is concerned, and that they further be requested to take into their consideration all the other suggestions contained in their report."

Mr. MAXON, Junr., seconded the resolution. He wished the committee had been unanimous; but he felt satisfied the works would pay 22 per cent. upon the outlay.

Mr. T. HILL opposed the erection of the works.

Mr. J. EVERE SWINDELL said the site would cost 3000/- or 4000/- more; and looking at the present state of the iron trade, they ought not to lay out any money.

Mr. HILL enquired what quantity the new works were calculated to turn out?

Mr. BRAMWELL replied 250 tons per week, and for the sum he had named the works were to be erected in the very best manner, and of the best material.

Mr. DAVIES had a great deal to do with such business in the neighbourhood, and considered the only question could be one of finance; it was most desirable to put up the mill, as there was not the demand for the excellent iron produced at the Blaenavon Works in the shape of pigs which there would be if it were converted into ship plates. There were at the present time 93 iron ships on the stocks in the Clyde, averaging 800 tons each, and the quality of the Blaenavon iron being so well known, there was no doubt the erection of the works would prove highly beneficial to the company.

A very lengthened discussion arose; and an amendment was proposed and seconded, that, under the present circumstances of the Blaenavon Company, it was not desirable that the new forge and mill should be erected. The amendment having been put, was lost, and the original motion carried by a large majority.

The proceedings terminated with a vote of thanks to the chairman and directors.

WHEAL FORTUNE (SOUTH TAWTON) MINING COMPANY.

The bi-monthly meeting of adventurers was held on Thursday, at the George and Vulture Tavern, St. Michael's-alley, Cornhill—OSMOND LEWIS, Esq., in the chair.

The following reports, from Capt. W. VERNAN and Heath, were read:—

"I have again inspected the Wheal Fortune Mine, and am happy to say that my opinion and report of about a month ago will shortly be borne out. The cross-cut driving north is much improved, and about one-half of the end is one solid mass of mudi, spotted with rich copper ore throughout, and runs through the stave. The end is about 3 fms. to the south of the middle lode, which is rather hard to drive, in consequence of so much mudi being edged together in the country. I expect in about three weeks or a month from this the lode will be cut, and when cut through I fully expect, from present appearance, that you will have a good and lasting mine."

"We have passed through the hard bar of ground going north in the bottom level, which has proved to be the capes of another lode. We have also driven, as I suppose, through the lode, and have what appear to be the upper wall, it is a very fine lode, and looks very well at that depth, about 2 feet wide, carrying a soft part of the foot wall about 6 in. wide, composed of what looks very much like black ores, a sample of which we send you, the hard part is composed of mudi, spotted with yellow copper ore. The champion lode is about 13 fms. further north, I think I should recommend the cross-cut to be driven with all dispatch until the lode is intersected. Agreeably to instructions, we have ordered the poles for fencing off Mr. Dunning's field what the company will require, and when that is completed we intend to lay open the backs of the lodes by coexisting pits, which will be in some part of the ensuing week. I have not been able to get to work the tin lode this week, but expect to next, as the shaft is now dry. It has been suggested it would be advisable to put down a small 4-inch lift, to prove the lode 30 feet deep, and I think it a good plan. I wrote to a person to borrow a lift, but I find it is in use; I should recommend the company to order one. In reference to the copper lodes, I always believed the champion lode is further north, and every lode we drive confirms me in that belief, and it is only to go down to make a good mine."

The CHAIRMAN gave a clear description of the present operations and future prospects of the mine, which was exceedingly satisfactory to the shareholders.

In order, however, to effect some arrangements, which, when completed, will be beneficial to the company, the shareholders adjourned the consideration of the general business to the 5th of July next.

DEVON KAPUNDA MINING COMPANY.

At a meeting of adventurers, held at the offices, 26, Throgmorton-street, on Thursday—WM. WARNE, Esq., in the chair—the following report was read:—

The committee have to report, that since the last meeting of the adventurers the operations of the mine have proceeded satisfactorily, and they are pleased to state, that the mine is fast approaching a state when important results may be anticipated. Since the month of January, the engine-shaft has been sunk upwards of 10 fathoms below the 22-fathom level, in a fine stratum of mineralised killas, which has considerably improved since the sinking commenced; and it may be safely affirmed, that the killas in the engine-shaft at this time is unsurpassed in that of any mine in the counties of Devon and Cornwall. The committee report that the following work has been executed since December:—Cutting pit in the 22 fathom level; shifting and fixing lifts from adit to 22 fathom level; cutting and dividing shaft from 14 fathom level to the 22, and putting in pent-house, sinking engine-shaft 10 fathoms below 22, 22 fathom level driven west 4 fathoms 3 feet; 14 fathom level east driven 20 fms. 4 ft. 6 in.; cross-cut west 23 fathom level driven 1 fathom 4 feet; cross-cut driving in adit level 10 fathoms 1 foot 6 inches; Harvey's shaft on the Great Geeson lode sunk 2 fathoms 1 foot. The report received yesterday from the agents further states:—The engine-shaft is still progressing in a beautiful channel of killas specimens of which we sent yesterday, and also stones of copper ore, broken from the lode in the 22 fathom level. From the change which has taken place in the killas below this level, we anticipate good results on our reaching the lode, which will take us about three months from this time, having about 8 fathoms cross-cut to intersect the lode. We shall also have to divide and case the engine-shaft, to bring the kibble to bottom to draw the stuff from the cross-cut in the 34 fathom level. Our mine being well ventilated, and all our plant on the mine in excellent condition, so that no extra expense will be required to prosecute the same with the utmost diligence. We have this day commenced driving north, to intersect a north lode, the character of which, at the surface, warrants such proceedings to be carried out. Taking into consideration the promising lode going down in the 22 fathom level, and the channel of killas in which it is imbedded, your prospects before you are quite encouraging, and demand the earnest attention of those who engage in mining speculations. The general condition of the mine, it will thus be seen, is highly satisfactory. The specimens of ore now on the table from the 22 fathom level, and the killas from the shaft, are sufficient to satisfy every man that no doubt can be reasonably entertained of cutting a course of ore when the lode shall be intersected, which operation will take place before the next meeting. The balance sheet of the company will show the following results:—viz., 798, £s. 2d. to the credit of the mine up to 30th April, 1855.

HOLLOWAY'S OINTMENT AND PILLS EXCELLENT REMEDIES FOR THE CURE OF BRONCHITIS AND ULCERATED SORE THROATS.—Extract of a letter from Mr. James Downing, of Paris-street, Exeter, dated March 50, 1855:—To Professor Holloway, Sir: Your ointment and pills have effected upon me a perfect cure of a dreadfully diseased throat, arising from cold, which ultimately terminated in bronchitis. The medical aid I received was unable to combat with the disease, and I was rapidly sinking under its influence; at this stage I had recourse to your medicines, which in a few hours relieved me, and I am happy to inform you, that in less than a fortnight I was entirely cured by them.—Sold by all druggists, and at Prof. Holloway's establishment, 94, Strand, London.

LONDON INDISPENSABLE LIFE POLICY COMPANY.

At the annual meeting of this company, held on Saturday last at the London Tavern, Bishopsgate-street—W. ADAMS, Esq., in the chair—the following report was read:—

"In presenting their annual report to your consideration, the board are enabled again to submit a statement showing a highly satisfactory progress in the business of the company. The balance-sheet, and also a statement of the receipts and expenditure for the year 1852, and a statement and valuation of the assets and liabilities of the company as at 31st December last audited and certified, are presented to the meeting, from which it appears that, after providing for the payment of every policy and every outstanding debt, including preliminary expenses attending the formation of the company, the establishment of agencies, and every other expenditure, there was at that period a balance of 39,386/- 0s. 1d. in favour of the company. The difference between the value of current premiums and future claims is, of course, not yet realised, but a low rate of interest—only 3 per cent.—having been assumed as the basis of the calculation, and as the rate of mortality adopted has been found to be higher than the company has experienced, and no part of the profit to arise from discontinued and surrendered policies has been included in the valuation, the estimate must be regarded as sufficiently low. The first declaration of profits (which belong exclusively to the assured) is by your Deed of Constitution appointed to be made at the annual general meeting of 1854, and will be applicable to those who shall have paid five annual premiums, thereafter the profits will be apportioned annually, and the board expect that the first reduction of premiums to be declared at your annual meeting will exceed 25 per cent. In the year embraced in the accounts now presented, 576 proposals have been received for the assurance of 177,826/- 2s., of which 450 have been accepted and completed, being rather more than that for the preceding year, assuring 113,207. 12s. 6d., and yielding in annual premiums the sum of 4263/- 12s. 5d. The number of policies issued since the establishment of the company, up to the 1st instant, has been 1851, and the total sum assured 531,115. 1s. 6d.; after deducting the policies that have become claims, those that have expired and those discontinued, there remain 1347 policies, yielding an annual income of 15,262/- 14s. 2d. The claims of last year amounted only to 2550/-, making the total amount of the claims from the commencement of the company 6491/- 11s., being much smaller in expectancy; tending to show that due caution has been used in the selection of lives. The premiums received upon expired and lapsed policies, which no longer continue obligations on the company, have amounted to 3260/- 16s. 4d.

"In presenting the satisfactory progress of the company and its present condition, two important facts will be kept in mind; in the first place, that this is no proprietary body whose funds might have been applied in loan transactions, and by that means have increased the business of the company, but whose annual dividends must be paid to some extent out of the premiums of the assured, thereby diminishing their profits; and in the second place, that the board have declined, sometimes at the hazard of displeasing active agents, to enter into any annuity transaction which, although they would have added to the available funds, and might have been used to increase the assurance business, would have more than proportionately increased the liabilities of the company, and the recent reduction in the rate of interest has shown that the resolution to decline that kind of business has been salutary and advantageous. Since your last meeting great exertions have been made by interested parties to depreciate the value of the principle of indemnity, as applied to the practice of life assurance. The steady and successful progress of this company, who introduced that valuable principle, without which no life policy can be a real assurance or complete security, and a general demand on the part of the public for its adoption, have stimulated the exertions of those who refuse to grant indemnity policies, and the fact of this company having refused to recognise a demand which was in fact already satisfied, has been seized upon as an argument against the principle of indemnity, although the circumstances do not warrant any such conclusion. A father, having a pecuniary interest in his son's attaining a certain age, applied for an ordinary assurance on his life, payable whenever he should happen to die, which was declined by the company, as being a specious or gambling assurance. The father thereupon made a statement as to the amount and endurance of his interests in his son's life, and a special assurance was granted for two years, for which a corresponding small premium was paid. The son attained the age to which the contingency applied, and the father received the full amount of the sum assured against. The policy, having been applied for and granted merely for a definite and special purpose, and paid for as such, necessarily terminated with the risk. In the present state of the question, the board are precluded from entering more fully into the circumstances of the case; but it is manifest that the demand is alike untenable and unjust, and that the doctrine of indemnity is not in the slightest degree affected by it. The directors and members cannot but feel highly gratified at seeing the position the company has attained, and the members are again reminded that the profits which belong exclusively to themselves may be much increased by their own individual exertion."

After a short discussion the report was unanimously adopted, and a vote of thanks having been passed to the board of directors, to A. Robertson, Esq., the manager, and to the other officers, the meeting separated.

A "SPECULATOR" IN TROUBLE.

A case involving some extraordinary details was heard at the Insolvent Debtors' Court, on Monday. PETTER EDWIN HENDERSON, an engineer, applied for his discharge, and was opposed on behalf of the Earl of CARDIGAN and the Hon. Mr. NORTON. It appeared that in April, 1851, the insolvent took from the agent of the Earl of CARDIGAN the Low Laith Colliery, near Wakefield, in Yorkshire, making certain representations as to his circumstances; but, failing to pay the rent at the expiration of the half-year, he was sued and the master referred to arbitration, when an award in favour of the Earl of CARDIGAN was made, and the insolvent was now in custody at his lordship's suit. The Hon. Mr. NORTON was entered as a creditor for the rent of some mining property, called Alverthorpe, which the insolvent alleged he had taken from Mr. Norton's agent; but Mr. Norton repudiated the letting, and disclaimed being a creditor at all. The judgment of the learned commissioner will give the best outline of the other facts. Mr. Commissioner LAW said, that of all the persons who appeared before him, marked with effrontery and impudent falsehood, he could not recollect one at all equaling the present insolvent. His impudence and falsehood had indeed been surprising. The insolvent had, it appeared, some years before had a colliery in Scotland, upon which he alleged he had laid out a good deal of money, with an unfortunate result; but it was idle to accept as truth a statement simply because this man made it. He represented that he gave up this colliery at a time when there was property worth 10,000/- upon it, because he had not the means of meeting a year's rent of 2000/. After that, in 1851, the insolvent took Lord CARDIGAN's mine, and his means at that time consisted, according to his statement, of about 500/-, but he represented to his lordship's agent that he had been an engineer in Belgium, and had an estate and colliery near Glasgow. It did not appear that all these representations were made before taking the mine, and of that fact the insolvent would have the benefit in the adjudication; but they showed what kind of a man he was. His position at the time of taking the mine was such that no honest man would have entered into such a speculation. The insolvent had said that he had assistance from relations, but the only certain capital which the Court could discover was a sum of 200/- belonging to a Mrs. WHITE, which he embezzled, and 400/- out of which he cheated the Yorkshire Banking Company. As to these last parties—the bank—the transaction with them was only important because their debt had been discharged by a levy upon the property at the mine, which belonged to the Earl of CARDIGAN. The insolvent, in July, 1851, upon inviting the bank to open an account with him, stated in answer to printed enquiries sent to him, that the capital employed at the mine was from 20,000/- to 25,000/-, and that he only wanted 1000/- for three months, as security for which he would give his works and plant—which in fact, were Lord CARDIGAN's works and plant, as the insolvent had never paid for them. Mr. HAYWARD, the agent of the earl, said the insolvent told him that he had an estate and colliery near Glasgow producing him 4000/- a-year, and that his estate was an excellent sporting ground, being situated between the properties of Lord BELHAVEN and the Duke of HAMILTON. Upon another occasion the insolvent told him that he had lent 13,000/- to the Earl of CARDIGAN. Another incident showed how the insolvent endeavoured to deceive Mr. HAYWARD. While stopping at that gentleman's house he asked Mr. HAYWARD to take him in his gig to Leeds, and, upon arriving there, said he had to pay 15/- for new coal waggon he had ordered, but had only 15/-, with him and had forgotten his check-book; upon which Mr. HAYWARD, at his request, lent him 3/-, for which that gentleman was compelled to sue, and only recovered it by levying upon the property of the Earl of CARDIGAN. Another witness, Mr. MARSDEN, to whom the insolvent applied for a lease of some mineral property belonging to the Hon. Mr. NORTON, was also led by him to his colliery and estate near Glasgow, and that he had lent 15,000/- to Lord CARDIGAN upon mortgage of the Northamptonshire estate, which was to be transferred to the Yorkshire property. The insolvent induced Mr. MARSDEN to write to his lordship's solicitor for the deeds, and expressed surprise that they had not been forwarded, as the solicitor had assured him they would be. These were all untruths, and it was most surprising how a man could dare to invent such falsehoods. It was not necessary to proceed through all the details; but at the end, when no rent was forthcoming, and his lordship's agent wished to get rid of the insolvent, the latter proposed to go if he were paid 6000/- He (Mr. Commissioner LAW) considered this a most audacious and profligate attempt by one man to rob another. A man getting into a position which he knew he could only hold for a short time by such means, was an offence perfectly horrible in any civilised state of society, especially when supported by the falsehoods employed to carry the scheme into effect. The insolvent would be discharged after being in custody at the suit of the Earl of CARDIGAN for a period not exceeding 19 calendar months from the date of the vesting order.

EAST BOSORN MINES.—There are several samples of the tinstuff taken out of the above mine at the office of Mr. Carne. The great feature of promise in this mine is, that this valuable stuff is met with at only 2 or 3 fms. from the surface, and being worth from 1s. to 1s. per sack, will more than pay the expenses of the preliminary works. The stuff from Wheal Betsy (a small lump of tin, in a whitish description of clay, and has been highly spoken of by several experienced miners, who have been to the company's office.

Mining Correspondence.

BRITISH MINES.

ALFRED CONSOLS.—We expect by the middle of next week the shaftmen will be ready for sinking Field's engine-shaft under the 110 fm. level. The lode in the 110 fm. level, east of this shaft, is worth for copper ore from 180/- to 200/- per fm., and was set on Saturday last, to six men, to drive at 11s. in 1/-, for a month. The ground that was stoping over this level on tuftwork is set to six men for a month, at 4d. in 1/- The lode in No. 3 winze sinking under the 100 fm. level, east of this shaft, is worth for copper ore 200/- per fm., and is set now to sink at 1s. 3d. in 1/-, by six men. Should these men be hindered by means of water in sinking, they will break ore from the end of the winze, for which they will be paid 10d. in 1/- We have two tribute pitches over the 100 fm. level, one by six men at 2s. 6d., and one by four men at 2s. 3d. in 1/- In the 90 fm. level, in the south lode, there are two pitches working by 10 men—four men at 2s., and six at 4s. 6d., in 1/- One pitch over the 90 fm. level, by four men, at 2s. 6d. in 1/- Two pitches over the 80 fm. level—one by four men at 2s., and one by two men at 5s. in 1/-; and one pitch over the 70 fm. level, by four men, at 2s. in 1/- No change in any other part of these mines since the last report.

AUGUSTA CONSOLS.—I am happy to inform you that we are getting on very well with the shaft, and that the men have taken the bargains. I broke a good stone of copper ore from the shaft to-day. The lode is 14 in. wide, and is running in its regular course, and is changing better for copper ore.

BALLY HICKIE.—We started our engine on the 4th inst., which went to work very well, and is still doing so. There is a large pool of water. I hope some time next week we shall be in fork, so far as we have dropped.

BODMIN UNITED.—Since my last report the sinking lift has been dropped 6 ft. below the 70, and the water drained to that level. The shaftmen will be engaged for some little time in fixing footway in the engine-shaft from the 20 to the 60, and dividing and easing shaft, &c.; after this work is complete they will commence clearing up the shaft to the 90 with all possible despatch. In the 70 east we find a good lode of yellow ore in sight, reported in the last working to be worth 2 tons of ore per fm.; as far as I can see it is not too high a value for it; we shall see more of it in a few days, when the level is cleared of mud, &c. This ore was discovered in the 70 in the last working of the mine, a few weeks before it ceased working; it is going down in whole ground, and but little has been done on it, except the sinking of a

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of lead, but indications showing that the south lode had been lost; we drove about 2 fms, and cut it; it is about 3 ft. wide, producing good lead in lodes. We have set this end to drive by four men, at 50s. per fm. The first pitch set in the 15 fm. level is looking better than we have seen it before, and the rest of the tributaries are getting wages. We find it impossible to separate the mundie from the lead in dressing, and we purpose to erect at once a furnace for calcining, which will enable us to effect this separation, and, when the crusher is up, produce a very great saving in our dressing department.

CUBERT UNITED.—The lode in the engine-shaft at present is looking well, and producing excellent work. In the course of another week we hope to be prepared to commence sinking on the underlay; the ground in the lode continues favourable, and there is a decided improvement going down. The 45 fm. level west has reached the western side of the elvan course, and the lode in the kilas on the other side is much improved. A more detailed account will be given in our next. In this level to the east the lode is small at present, with spots of lead only. The cross-cut in the 35 fm. level east has been discontinued, and we are now driving on the course of the lode, which is not looking favourable at present. In this level to the west a change of ground has disordered the lode for some days past, but to-day it appears more composed, and there is every indication that it will soon resume its former good appearance. In the 25 fm. level east the lode at present is small, but contains a portion of lead. In this level to the west there is a strong lode, containing some lead and much mundie, and from the quantity of water issuing from the lode, and other favourable indications, there is every probability of arriving at something more valuable here before long. The lode in the 15 fm. level west is at present disordered by the intersection of a cross-lode. It, however, contains good stones of lead, and the ground is improving. At Trebellen, we are making favourable progress in clearing under the 35 fm. level, and by Saturday next we hope to be prepared to drop the pumps under that level.

CWM DARREN.—Since the last report we have stripped down a part of the lode in the 10 fm. driving the engine-shaft, for about 8 fms. in length, which will yield about 5d. worth of lead and copper per fm.; the lode in the end at present is worth 5d. per fm. The 20 west is worth 4d. per fm. We are cross-cutting south in the 20, east of the engine-shaft, and hope, from appearances, to be able to report favourably of this shortly. The shaft is down 6 feet under the 20; the men are working well, and the mine is looking better than it has been for some time.

DEVON AND COURTEENAY.—The lode in the 50 fm. level will turn out about 1 ton of ore per fathom, and promising a further improvement. No alteration in any other part of the mine.

DEVON CONSOLS WEST.—The cross-cut south, in the 24 fm. level, presents the same appearance as when I wrote you last. The water is increasing daily. The engine and pitwork is in good order, &c.

DEVON WEST BEAM.—Yesterday (June 14) we intersected the second north lode in the cross-cut, driving north of the engine-shaft in the 40 fm. level, which is about 6 fms. north of the first we intersected; it is underlying south about 2 ft. in a fm.; we have cut through about 1 ft. 3 in.—saving work for tin, but have not yet reached the north wall; the ground around it is of a beautiful light killas, and, to all appearances, it is a large promising lode, giving every reason to expect great quantities of tin in following its course; this lode has not been seen in this mine below the surface, but in the Owinhorne, the adjoining mine, it has produced many thousand pounds worth of tin. As soon as we reach the north wall shall recommend to drive west on the course of this lode, and, at the same time, continue the cross-cut north, to intersect the other north lode, which we shall do, as near as we can judge, in driving about 12 or 14 fms. further. We also recommend to drive at once the cross-cut north in the 30 fm. level, to intersect the lode at that depth also; this cross-cut was driven several fms. by the last company, but they suspended the driving, and filled it with stuff from other parts of the mine. We shall write more fully as soon as we have met the other wall of the lode. All our other works are going on well, and the stonewalls will be at work by the latter part of this or the beginning of next week.

DINAS GREAT COPPER.—This mine far more than realised my anticipations, and only demands care and attention to become everything one could wish a mine to be. Within the last few days a great improvement has taken place in quantity and quality of ore, and I consider it far removed from the position of a mere speculation. What I most particularly like about it is, the progressive amelioration in the lode, which at surface yielded so large a portion of mundie; this, now, is producing beautiful stones of blue and yellow sulphurite of copper, together with very rich grey silver ore, and promises to improve still more in depth.

DHU RODE.—The lode in the end driving west of the south counter is 3 feet wide, composed of killas, quartz, gossan, and a good mixture of yellow ore; the lode in the rise is 2 ft. wide, impregnated throughout with mundie and ore. The cross-cut extending north in the 30 fm. level is still hard, the elvan is spotted with ore, we have to drive about 3 fms. before we reach the first lode, this lode has been opened upon at surface, and is from 8 to 12 ft. wide, containing large masses of quartz, killas, mundie, and an exceedingly fine gossan, producing strong yellow ore. I am of opinion that large quantities of ore will be raised when this lode is intersected; there are several other parallel lodes further north of a similar character, which will be opened upon by this cross-cut. In the 26 fm. level, in the end driving west on the new lode, it is 5 ft. wide, worth 15d. per fm.; and in the end driving east it is 4 ft. wide, worth 30s. per fm., the lode in the stopes is 3 ft. wide, and worth 8d. per fm. I have discovered a lode 200 fms. south, cropping out at surface, blates were put in, and large stones of yellow ore were produced. We have 23 tons of ore now dressed and ready for market, worth at the present standard 15d. per ton, and 5 tons in the slides. We cannot return any from the hundreds of tons of ore stuff laying at surface, until we have a new crusher and new stamps, as the old stamps are now useless. I am happy to state that the mine never looked better, and judging from the present prospects, the shareholders may confidently expect a good return for their capital.

DUNSLY WHEAL PHENIX.—We have some scores of kibbles of tinstuff laid up for the stamps: the tin is of the best quality.

EAST ALFRED CONSOLS.—The setting on this mine on Saturday (11th instant) consisted of four men to drive adit east on Trevaskus south lode, at 4d. per fm.; four men ditto west, at 6d.; two men ditto on main lode (prior not yet fixed), the place not being sufficiently clear); two men to drive deep adit south, from Trevaskus adit, near to Polkinghorne, but in Lanyon estate, at 2d. Since my last report we have been opening on Trevaskus south lode. In the eastern end we have a large kindly lode, producing good stones of ore; in our western end the lode is at present small, but without mineral. In clearing the main lode we have passed through some old workings; in the end we have broken some good stones of copper ore, but we cannot say much of the general character of the lode, until we have opened more ground on it. It appears that in driving the Trevaskus adit, east from Polkinghorne, into Lanyon; the lode was allowed to stand unseen to the south, and we are now driving in that direction to intersect it.

EAST CROWNDALE.—Our shaft still continues in better ground for sinking than last month, and consequently our progress is more satisfactory. The ground in the rise is moderate, and the same may be said of the winze in the 47. We have not made the progress this week we otherwise should have done, in consequence of the badness of the air, occasioned by the very close weather we have had, and having but one shaft. There has been no lode taken down in the 37 driving west, and the tribute pitches present no new feature.

EAST HERLAD.—In driving west on south lode, the lode is much improved, and producing excellent stones of ore. We shall now commence driving east on this lode, towards the great cross-course. The garden shaft is now clear, and we shall commence working on the ore ground in the course of next week.

EAST POLGOOTH.—The rise in the back of the 30 fm. level and the shaft will be holed in a day or two. The 30 end east is a little improved since last week, ground easier for driving, the lode more promising; in the 30 west there is no alteration. The 20 end west is very promising. I have put four men to drive in the 30, by Capt. Dunstan's orders. None of the 15-inch engine is yet on the mine; they promise it shall be shortly. Other operations are going on favourably.

EAST WHEAL GEORGE.—I have nothing new to report on at present, no material advance having taken place since my last.

EAST WHEAL REETH.—Since the last meeting, the sumpmen have cut a plat in the 54 fm. level, excavated a barrow road behind the shaft for wheeling purposes, divided and cased down the whr. n. and engine-shafts, fixed the lift, and have driven about 6 ft. north of engine-shaft on the north and south lode, in a direction to intersect the east and west lode, standing about 20 fms. north of engine-shaft. About four months since I recommended that, on the 54 fathoms level being reached, the various lodes should be intersected by driving east, west, north, and south, and which I consider should now be proceeded with; we have a level going south of the 54, to discover the Wheal Reeth east and west lodes, it has been already driven 3 fathoms, ground rather hard, for driving at present. The 44 fm. level south has reached the counter, we cut it only from 12 to 15 in. big, but within a day or two it has widened to 3 ft., its appearance is good for tin, although it only produces at present slightly; the east and west lode, which we expected about this point, has not yet made its appearance—the angle of dips must be different to the angle in the 24; I hope, however, on reaching the junction of the counter and east and west lodes we shall meet with a valuable discovery. I beg strongly to recommend sinking a shaft from surface on the South Wheal Reeth lode, and during the summer months we could go down a great many fathoms without the aid of machinery. I have been much satisfied with the mine throughout, our hands at present are engaged driving; perhaps we had better delay sinking the engine-shaft for a short time, at least until we cut some of the lodes in the present level.

EAST WHEAL RUSSELL.—We have no alteration in any of the levels at Hitchens' shaft since last report. We have cut into the lode north, at the 55 and 45 fm. levels, 2 or 3 ft.; we have had spots of ore in the capes. We shall commence putting down the pump immediately, and shall not be long before we commence driving a cross-cut south through the lode at the 65. We have not taken down any more of the lode in the tunnel level end since last report.

EAST WHITE GRIT.—The ground is hard in Lawrence's shaft; nevertheless we are making good progress. The 20 produces about the same quantity of ore.

GEFRON.—The lode in the 20 fm. level east is 18 in. wide, composed of soft sugar spar and capel, carrying a leader of copper ore 1½ in. wide, and interspersed throughout with a well-defined wall—a kindly lode; the same level west is without alteration. The lode in the 10 west is 2 ft. wide, composed of spar, mundie, capel, and good stones of ore. The lode in the 15 is 15 in. wide, producing 5 cwt. of ore per fathom. The lode in the stopes in the bottom of the 15 is producing from 3 to 4 cwt. of ore per fm.; in the stopes in the back they have not taken down any lode. The tribute department is much as usual.

GODINAN.—The lode in the 60 east is yielding about 1 ton of silver-lead per fm. The lode in the 55 west, at the boundary shaft, is rather improved, and yields good stones of ore. In the western shaft the lode is 10 ft. wide, and will yield upwards of 1½ ton of ore per fm. The tribute pitches are looking much as usual, and are yielding tolerably well.

GREAT BRYN CONSOLS.—The Great Bryn shaft is sunk 3 fms. 4 ft. from surface; the shaftmen have completed timbering the shaft, and are now employed in sinking; I have set 5 fms., to sink, at 2d. 15s. per fathom. The new lode we cut last week has gone through the shaft, letting down a quantity of water. In the shallow adit driving south, no alteration in the south lode; the ground in the eastern end is not so easy for driving; the lode is 16 inches wide, composed of mundie, iron, and some copper ore. I have the put men to crosscut north, to see if I can find any more lodes. The castings and other iron work for the flat rods and water-wheel I have ordered from Mr. Thomas, Charlestown.

GREAT CRINNIS.—The water is in fork 10 fms. all over the mine, and we have got down among the rubbish in the engine-shaft. We shall commence to drive (13th inst.) clearing the stuff, and drop the pumps as we go down. The other shafts are being cleared with all speed. The engine and operations generally are going on in a satisfactory manner. We have not intersected Bell's lode yet, nor can we account for it: we have spent all the ground calculated on, so I suppose it must have changed its course.

GAWTON UNITED.—In Fuller's engine-shaft the lode presents much the same appearance as when last reported on. I regret to say we are compelled to suspend sinking until the lobby is holed, it being impossible for men to work there on account of bad air. We started our engine on Saturday; it works exceedingly well, and the water is in fork a Bayly's 13 fm. level. The men are busily engaged in easing and dividing the shaft, and we hope to complete it by next setting day.

GREAT POLGOOTH.—The St. Martin's lode, in the 56, east of Clark's, is worth 3 cwt. of tin per 100 sacks; the south lode in this level, east of Clark's, is 6 feet wide, and has a very promising appearance, with good stones of tin. We have set the winze sinking under this level, on the south lode, east of Williams's lode is the lode is small but very rich for tin; the cross-cut in this level is under the new shaft. The 51, east of Clark's, on St. Martin's lode, is worth 3 cwt. of tin per 100 sacks. The 60, east of stith, on St. Martin's lode, is worth 10 cwt. of tin per 100 sacks. We have holed the winze from the 65 to the 76 fathoms levels, and this has laid open some good tin ground for tribute. The lode in the 56, east of stith, is worth 4 cwt. of tin per 100 sacks. Since last report, we have sold tin, value 51d. 11s. 1d.

GREAT TREGUNNE CONSOLS.—Hobbs's shaft is sinking in a beautiful country and expect tin at the intersection of the lode. We have a great deal of water issuing from all parts of the shaft; and, judging from the appearance, we are almost certain to have tin when we get on the lode. We are getting on satisfactorily with the level to drive on the new tin lode; and are breaking tin in the adit on the north branch. The shaft at Parker's is going down in a beautiful channel of ground, very congenial for minerals.

GREAT WHEAL HUGO.—The engine-shaft has been sunk but little since our last report, in consequence of the ground being tighter, and water increased, being about 7 fms. from surface. We have about 10 fms. 3 ft. close driving in the adit, the ground just the same. We are preparing for the erection of a whim as fast as possible, and have commenced the last this week.

HAWKMOOR.—We have driven 9 ft. on the eastern side of the Devon Great Consols cross-course in the 30 fm. level, and have not yet intersected the lode. We are pushing this object with all possible speed—ground becoming more favourable. The water being too powerful for us to continue the sinking of Graham's shaft without a lift of pumps, we have suspended sinking, and are drawing up the lift of pumps at the western shaft for this purpose. The 20 and 30 west are suspended for the week, as we have the men from those ends about the whim head, 12 men, 4 horses, and 2 carts to drive on the new tin lode; and are breaking tin in the adit on the north branch. The shaft at Parker's is going down in a beautiful channel of ground, very congenial for minerals.

HILL BRIDGE CONSOLS.—Hobbs's shaft is sinking in a beautiful country and expect tin at the intersection of the lode. We have a great deal of water issuing from all parts of the shaft; and, judging from the appearance, we are almost certain to have tin when we get on the lode. We are getting on satisfactorily with the level to drive on the new tin lode; and are breaking tin in the adit on the north branch. The shaft at Parker's is going down in a beautiful channel of ground, very congenial for minerals.

HOLMBUSH.—The ground in Hitchins's shaft, and in the 145 cross-cut south, is without alteration, making pretty good progress in both. The ground in the diagonal shaft is more favourable; in driving south-west of the great cross-course we have cut another branch, 7 in. wide, composed of rich copper ore, mundie, spar, and prian. We shall shortly commence driving west on the several branches, comprising a width of 4 feet, and, no doubt, they will form a junction a short distance west of the cross-course, judging from the lode in the 142. The ground in the 120, west of the Flap-jack lode, through the cross-course, is more favourable. The Flap-jack lode in the 125, east of cross-course, is 2½ feet wide, producing 2 tons of ore per fm. The lode in the 110 east will produce 3½ tons of ore per fm. The end west of Wall's shaft, from the midway winze, will produce 2½ tons of ore per fm. There is no alteration in the ground in the 124, north of Wall's shaft; and the water is increasing in the 124 cross-cut, south of the said shaft, the same being quite warm, and we are of opinion we are not far from the lode, which we hope will be a productive one. The timber department is, on the whole, much as usual.

KESWICK.—At Brandley Mine, the lode in the 20 fm. level north is worth 10 cwt. of ore per fm. The lode in the 30 fm. level north is worth 3 cwt. of ore per fm. No. 1 stopes, in this level, is worth 5 cwt. and No. 2 stopes 10 cwt. of ore per fm. There are two stopes in the 30 fm. level south—No. 1 is worth 10 cwt., and No. 2, 8 cwt. of ore per fm. Wilkinson's level, at the Barrow Mine, is worth 10 cwt. of ore per fm.

KING ARTHUR CONSOLS.—The agent reports, they have put nine men to work, three to drive the adit level on the course of the lode, and the remainder to sink the engine-shaft. On the 10th, with the men brought in a solid nugget of malleable-silver-lead ore, weighing very near ten pounds, such as had never been produced from any mine in Cornwall. All parties in the locality speak of the great value of the mine.

LATHBROOK.—The lode in the 145 cross-cut south, is of a promising appearance.

LAWBUSH.—The lode in the 145 cross-cut south, is of a promising appearance.

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SOUTH DEVON GREAT CONSOLS (Tavistock).—The ground in the adit end is much the same as last reported; the lode is 3 feet wide, well-defined, composed of capel, spar, and mandic. The lode in the bottom of the adit is suspended, in consequence of a great increase of water. In my opinion, this place fully warrants a vigorous development; this, however, cannot be effected to any advantage without the aid of steam-power. I have put the men who were employed in sinking the winze to cut down the shaft on the south lode to a suitable size for an engine-shaft. The ground in the end on the counter lode is rather harder, and the present appearance of the lode is not very encouraging; it is about 1½ ft. wide, composed of hard spar and a little mandic. Our wheel-pit is completed, and we shall commence to erect the wheel as soon as possible.

ST. AUSTELL CONSOLS.—All the heavy parts of our engine are fixed, and next week we shall commence fixing all the other gear and fittings, and shall have it all completed in about a fortnight. At Grout's engine-shaft our shears and capstan are completed and erected, and on Monday we shall drop our lift of 12-in. pumps. At the shallow adit in Hawkins's land, the ground is a little harder, and the present appearance of the lode is not very encouraging; it is about 1½ ft. wide, composed of hard spar and a little mandic. Our wheel-pit is completed, and we shall commence to erect the wheel as soon as possible.

TAMAR SILVER-LEAD.—In the 215 and 305 ends there has been no lode taken down since last report. In the 190 end the lode is disordered with the slide course in the 175 end the lode is 2½ ft. wide, all saving work. In the 160 end the lode is 3 ft. wide, coarse work. In the 145 end the lode is 18 in. wide, 1 ft. of which is rich work. In the 135 end the lode is 1 ft. wide, composed of capel and ore, a very promising end. We hope to commence sinking the new shaft in the Duxbury ground, the Cornish side of the river, on the 27th inst.—North Mine : The 100 end driving north is still in disordered ground. In the 90 end the lode is 6 inches wide, composed of capel and fluor spar, with a small quantity of ore. In the 80 fathom level end we are dressing the lode.

TINCROFT.—At North Tincroft, in the engine-shaft sinking below the 190 fathom level, the lode is 4 ft. wide, worth 50f. per fm.; in the east end, same level, the lode is 3½ ft. wide, worth 50f. per fathom. In the rise in the back of this level the lode is 2½ ft. wide, worth 12f. per fm.; in the west end, same level, the lode is 3 ft. wide, producing saving work for the main copper. In the 120, west of said shaft, the lode is 3 ft. wide, worth 6f. per fathom. In the 110, driving west, the lode is 4 ft. wide, worth 12f. per fathom for copper; in the winze sinking below this level the lode is 2½ ft. wide, with good stones of copper ore. In the winze sinking below the 100 fm. level, west of said shaft, the lode is 4 ft. wide, worth 10f. per fathom. On Highburrow tin lode, in the 132 fm. level, driving east of engine-shaft, the lode is 4 ft. wide, worth 15f. per fathom; the stones in the back of this level are worth 16f. per fathom. The stones in the back of the 142, east of Martin's east shaft, are worth 10f. per fathom. The stones in the back of the 132 fm. level are worth 9f. per fm. Chapple's lode, in the rise in the back of the 122, west of engine-shaft, is 2 ft. wide, saving work for tin. The stones in the back of the 110, west of Downright shaft, are worth 15f. per fathom. In the winze sinking below the 100 fm. level, west of Grout's lode, in the back of the 70 fm. level, west of Downright shaft, is 6 ft. wide, worth 30f. per fathom. In the 60 fathom level east the lode is 4 ft. wide, worth 15f. per fathom; the stones in the back of this level are worth 25f. per fathom for copper. Dunkin's lode, in the engine-shaft sinking below the 110, is 4 ft. wide, saving work for tin and copper; in the west end, same level, the lode is 3½ ft. wide, worth 6f. per fathom for tin and copper. In the winze sinking below the 90, west of said shaft, the lode is 2 ft. wide, worth 8f. per fathom for copper.

TREBELL.—Since my last report, we have been deepening the mine by stopping and cutting through the lode on its southern part, preparatory to sinking; we find this part of it to be better than on the north—consequently, we have just begun to sink on it. We have not done much to the tin discovery (named in my last), nor having been in a position to do so. We are now enabled to sink on it; we find a gradual improvement as we progress downwards, and, from present appearances, we have reason to expect its continuation.

TRELAWNY.—Trelawny shaft is sunk 4 fms., 1 ft. below the 120 fm. level, and the ground is good for sinking. In the 130 fm. level, north end, the lode is 3 feet wide, with a little ore in it; in the south end the lode is 3½ ft. wide, worth 8f. per fm. In the 107 fm. level, north end, the lode is still poor; in the south end it is 2½ ft. wide, worth 10f. per fm. In the 92 fm. level, south end, the lode is 3 ft. wide, worth 12f. per fm.; in the winze in the bottom of this level the lode is 2½ ft. wide, worth 20f. per fm. At the north mine, Smith's shaft is sunk 6 fms., 2 ft. below the 88 fm. level; since last week we have met with a hard floor of spar, which has rather impeded our progress for the time. In the 88 fm. level, north end, the lode is 2 feet wide, worth 16f. per fm.; in the south end it is 2 ft. wide, worth 7f. per fm. This end is near the side, and when it gets through it we expect to see a great improvement. In the 78 fm. level, end, the lode is 7 ft. wide, worth 12f. per fm.; we have begun to sink a winze in the bottom of this level, north of the shaft, in which the lode is 3 ft. wide, worth 16f. per fm. In the 68 fm. level, north end, the lode is 2 ft. wide, worth 12f. per fm.; the lode in the back of the 68 fm. level, north end, is 2 ft. wide, worth 24f. per fm.; in the 58 fm. level, west of the 68 fm. level, the lode is 1 ft. wide, worth 7f. per fm. In the 40 fm. level, we have turned to drive north on a promising branch containing some lead, which will no doubt lead on to the main part of the lode. We should, ere this, have met with the lode in the 25 cross-cut if it had continued as proved to be in the 68 and 58 fm. levels, but it is evidently more perpendicular. Chippendale's shaft is down 25 fms. from the surface, and the ground is moderate. The stopes and pitches are just as usual.

TRELEIGH CONSOLS.—No improvement has taken place in the 100 west since our last report; the lode is still split into branches of an unpromising character. The water in Good Fortune shaft has sunk about 1 ft. since last week. The pitches continue as much as usual. We shall sample on Tuesday about 77 tons of ore.

TELOWETH.—During the past month we have been busily engaged fixing the plunger-lift at the 67 fm. level, which is now completed, and I think by the 15th instant we shall begin again to sink the engine-shaft below the 67 on the course of the lode: when it was suspended, the lode looked better than for some time previous; however, the next 10 fms. sinking will make a trial of it. There being hindrance to the bottom (67) level whilst the pit work is being changed, our progress in the month just out has been slow, but in both ends the lode is yielding some good copper ore, and in the eastern level we find good stones of grey ore in the lode. The lode in the 25 west will yield about 1 ton of copper ore per fm. In my next I hope to give you a more favourable report of the shaft and bottom levels. We have commenced sinking a shaft near the eastern boundary, on the course of the lode, where we find some very soft gossan.

TEMMAR (COPPER).—Our engine-shaft is now down 10 fms. below the 24 fathom level, where we have commenced driving north to cut Norris's lode, which in the 24 fm. level continues just the same as last reported; the ground continues favourable for driving. Baby's shaft south is now down about 10 fms. from the surface, taking the course of a fine lode, about 2 ft. wide, producing some beautiful stones of copper ore. On the whole, I think this is one of the most promising lodes I have seen at so shallow a level.

TEMLLIET DOWN.—The ground is greatly improved in the adit end south, and the men are making greater progress. We intersected a small vein last week about 4 inches wide, composed of mudi, soft spar, with gossan, &c. I am daily expecting to cut the lode, after which I will write you.

ALPHA UNITED.—I send you our cost-sheet for May. We have had a breakage in the bucket-rod, which has caused a little delay in getting out the water, which is from 3 to 4 ft. deep, so that I cannot get in the level: I hope to get through next week. We have cleared out about 60 or 70 fms. of adit, and find that the old men have risen through nearly to the surface; in a great many places they have sunk in the bottom, where they must have had some considerable quantity of ore, by the look of the old workings. We have not yet got to the eastern adit end, and in the western end the lode is heated by a cross-course, and has not been seen to the west of it, though they had a good course of ore up to the cross-course. We have nearly completed the whin-round; we are going on well with casting the plat—beautiful white killas; I hope to finish it this week; when this is done, I shall set a level east and west, on the course of the lode, to drive under the old men's workings, which, I expect, will soon unwater the different winzes in the bottom of the adit, when we shall have a back to take away the ore, if they have left any. You will see I propose a cross-cut, from the new plat to Bridge lode, to cut the lode about 12 fms. below the adit, very pretty ground; and you will see the proposed level under the old men's workings; you will see that the old men have worked away the ground in the back and bottom of the adit for a great distance, and our proposed 12 fm. level is a very important one.

UNION (TIN).—I cannot say exactly when the engine will work. I was to have had all the parts last Friday, but have received information since, that I cannot have them until Thursday next. I believe all will be ready on that day except the boiler and fire-door. Immediately the engine is ready we shall commence operations again in good earnest.

VALE OF TOWY.—Since my last report we have set to stop the back of the 10, north of Clay's engine-shaft, to three men, at 30s. per fm.; the same level driving south of said shaft continues to improve, and is producing good stones of lead. All other places are as last reported.

WEST ALLT-Y-CHIR.—The shaft is down 4 fms. The water is increasing, but we are getting on satisfactorily.

WEST DING DONG.—We have suspended sinking the flat-rod shaft on Richard's lode, and have driven 6 ft. in the two bottom ends; the lode in those ends is 18 in. wide, worth for tin 20f. per fathom. We have six men stopping the bottoms on the 10 fm. level on a lode 1 ft. wide, worth for tin 12f. per fathom. In the slopes east of engine-shaft, in the bottom of the 10 fm. level, the lode is 1 ft. wide, saving work. The lode in the 10 fm. level, west of engine-shaft, on Trezize's lode, is 2 ft. wide, worth for tin 10f. per fathom, and ground much easier for driving—I think we are getting in under a good run of tin in ground in this end. The lode in the end driving east on Eamstrevon course, in the 27 fm. level, is 10 in. wide, worth for tin 12f. per fathom; the lode in the end driving west is 5 in. wide, worth for tin 8f. per fathom. All other parts of the mine are looking favourable. We put the flat-rods to work yesterday (June 13) from the engine, to throw the water over the wheel, and they are working very well.

WESTON.—The cross-cut has been driven 7 ft. south on the Ryder lode, without reaching the wall; the lode is spongy. No 3 shaft is going down rapidly. The Village side continues satisfactory.

WEST WHEAL ALFRED.—In sinking Cole's engine-shaft below the 32, we find the ground to be harder than was expected. The 55 east is being driven on the south part of the lode, and also on the north part. In the 45, west of Mexico shaft, the lode is 12 ft. wide, containing good stones of yellow ore. In the 37, west of God's lode, we have driven through some good ore in the past week; the present end not looking so well; it is a large and promising lode for copper ore, and from its appearance we think it likely to lead to something good. The tribute department without much alteration. We expect to sample on the 23rd instant about 50 to 60 sacks of tin.

WEST WHEAL BULLER.—We have between 300 and 400 sacks of tinstone, and if we return the same the expense of drawing and stamping will be about 100 sacks. I will endeavour to stamp a parcel as soon as possible.

driving the adit end, and the lode is about 15 inches wide; the water has increased. We have two men stopping in the back of the adit level, and the lode at present is 4 cwt. 1 qr. 9 lbs. of black tin per 100 sacks. We suspended sinking Manuel's shaft for the present, in consequence of increased water.

WEST WHEAL ARTHUR.—North Lode : The lode in the 50 west is 12 ft. wide, and the 55 east the 12 ft. wide, both for tin 12f. per fm., worth 7f. per ton. The lode in the 55 west, is 3 ft. wide, producing 2 tons of ore per fm., worth 6f. per ton. Broom's slope is suspended for the present, and a branch seen in driving the 30 cross-cut north, between the 50 and 55 ends. The lode in Cook's winze, sinking below the 50,

and poor, down within about 2 fms. of the 50 fm. level. The lode in Nankivell's rise, in the back of the 25 west, is 3 ft. wide, unproductive. The lode in Hartland's rise, in the back of the 35 west, is 6 ft. wide, yielding 3 tons of ore per fm., worth 7f. per ton. The lode in Coom's rise, in the back of the 20 west, to hole to air shaft, is 4 feet wide, unproductive.—Munday's Lode : The lode in the winze and stops in the bottom of the 50 west is 30 in. wide, producing good stones of ore.—Great South Lode : The lode in the 50 west is 15 in. wide, yielding stones of ore.—Old Lode : The lode in the 70 west is 4 ft. wide, producing stones of ore; the lode in the 70 east is 3 feet wide, composed of spar, mandic, peach, capel, and spots of ore. The lode in James's slope, in the back of the 70 east, is 3 ft. wide, yielding 1½ tons of ore per fm., worth 6f. per ton.

WHEAL AUGUSTA (Penzance).—The monthly survey of this mine was held on Saturday the 4th inst. Nearly all the bargains were taken: in two instances the men held out for higher prices, but these were subsequently taken at slight advances.

The stops on Wheal Augusta lode, under the 18 fm. level, are producing some tin, but is not rich; the lode, however, is kindly, and it is still hoped that, by the present mode of working, &c., the lode will be improved.

The 25 fm. level west, on the north lode, is improving, and hope very soon to have copper ore to value. The 30 fm. level west, on the north lode, east of cross-course, the lode is very kindly, 3½ ft. wide, yielding good stones of copper ore, worth saving to dress. We have now eight pitches working on tribute in good spirit. Sold our tinstuffs on Wednesday last for the sum of 104f. 12s. 6d., and bought in 18f. 13s. 5d. worth, that we could not get our price for. We are working on with all possible speed to get our steam-whim and stamps to work, which we hope to do in about two months, when we anticipate soon to pay the working cost of the mine. Set to-day to the masons for building the engine-house, boiler-house, and stack; to provide all materials at 4s. 6d. per perch, and to complete the same in four weeks from this time.

WHEAL VICTORIA.—During the last week the shaftmen have sunk 5 ft., making altogether 34 fms. 3 ft. 9 in. below the adit.

WHEAL WILLIAMS.—The north lode engine-shaft is sunk below the 30 fm. plat 7 fathoms 8 ft. in a beautiful channel of mineralised killas, the lode still carrying spots of copper ore. The influx of water recently cut in the sinking of the said shaft has drained the 17, and also the western shaft on the same lode. From the part of the lode that we can see at surface, and the beautiful stratum of killas, present such indications that must enhance the value of the mine.

WHEAL WREY.—The shaft has now been sunk 9 fms. 2 ft., and consequently, the first take of 10 fms. is nearly completed; 4 fms. more will reach the level of the adit. A cross-cut from the latter has been commenced, and driven 9 ft. at 3f. 10s. per fm.—the whole length being 11 fms., and the take about 1 fm. per week; this would occupy (say) three months. The adit end, which was decided to improve in character, has been suspended for the cross-cut; this is all the miners' work at present. The masons have commenced the smiths and carpenters' shops, and expect to finish in eight or nine days. The ore is nearly dressed, and roughly estimated at 11 tons. The captain does not think it would pay to stop down more. I think your present object is to force on the cross-cut and shaft. Two more men can be put into the former, which, unless we hear to the contrary, shall be done immediately. I see no advantage at present in prosecuting further discoveries. Certainly there is every probability that the lode, which is so rich in North Trelawny, and from which lead has been taken in our western adit, will prove a valuable addition. Your present level, in consequence of which we are obliged to stop sinking, and shall at once proceed to fix our lifts, and put the engine to work. We have now about 120 barrels of water in every six hours.

WHEAL FANNY.—We have cut through the east and west lodes at the 19 fm. level, and the lode is 6 ft. wide, composed of prian and sugary spar, spotted with copper ore, underlaying 2½ ft. in a fathom, north, with well-defined walls, carrying a fine flock under the hanging wall, and, as is usual in this mine, plenty of water coming from the lode; I consider this lode to be very promising. In the level driving on the north end, same level, the lode is 4 ft. wide, worth 20f. per fathom; the stops in the back of the 17 fm. level, west of Downright shaft, are 25 ft. 2 in. wide, 20f. per fathom; in the 16 fm. level, west of Downright shaft, are 25 ft. 2 in. wide, 20f. per fathom; in the 15 fm. level, west of Downright shaft, are 25 ft. 2 in. wide, 20f. per fathom; in the 14 fm. level, west of Downright shaft, are 25 ft. 2 in. wide, 20f. per fathom; in the 13 fm. level, west of Downright shaft, are 25 ft. 2 in. wide, 20f. per fathom; in the 12 fm. level, west of Downright shaft, are 25 ft. 2 in. wide, 20f. per fathom; in the 11 fm. level, west of Downright shaft, are 25 ft. 2 in. wide, 20f. per fathom; in the 10 fm. level, west of Downright shaft, are 25 ft. 2 in. wide, 20f. per fathom; in the 9 fm. level, west of Downright shaft, are 25 ft. 2 in. wide, 20f. per fathom; in the 8 fm. level, west of Downright shaft, are 25 ft. 2 in. wide, 20f. per fathom; in the 7 fm. level, west of Downright shaft, are 25 ft. 2 in. wide, 20f. per fathom; in the 6 fm. level, west of Downright shaft, are 25 ft. 2 in. wide, 20f. per fathom; in the 5 fm. level, west of Downright shaft, are 25 ft. 2 in. wide, 20f. per fathom; in the 4 fm. level, west of Downright shaft, are 25 ft. 2 in. wide, 20f. per fathom; in the 3 fm. level, west of Downright shaft, are 25 ft. 2 in. wide, 20f. per fathom; in the 2 fm. level, west of Downright shaft, are 25 ft. 2 in. wide, 20f. per fathom; in the 1 fm. level, west of Downright shaft, are 25 ft. 2 in. wide, 20f. per fathom; in the 0 fm. level, west of Downright shaft, are 25 ft. 2 in. wide, 20f. per fathom; in the 1 fm. level, east of Downright shaft, are 25 ft. 2 in. wide, 20f. per fathom; in the 2 fm. level, east of Downright shaft, are 25 ft. 2 in. wide, 20f. per fathom; in the 3 fm. level, east of Downright shaft, are 25 ft. 2 in. wide, 20f. per fathom; in the 4 fm. level, east of Downright shaft, are 25 ft. 2 in. wide, 20f. per fathom; in the 5 fm. level, east of Downright shaft, are 25 ft. 2 in. wide, 20f. per fathom; in the 6 fm. level, east of Downright shaft, are 25 ft. 2 in. wide, 20f. per fathom; in the 7 fm. level, east of Downright shaft, are 25 ft. 2 in. wide, 20f. per fathom; in the 8 fm. level, east of Downright shaft, are 25 ft. 2 in. wide, 20f. per fathom; in the 9 fm. level, east of Downright shaft, are 25 ft. 2 in. wide, 20f. per fathom; in the 10 fm. level, east of Downright shaft, are 25 ft. 2 in. wide, 20f. per fathom; in the 11 fm. level, east of Downright shaft, are 25 ft. 2 in. wide, 20f. per fathom; in the 12 fm. level, east of Downright shaft, are 25 ft. 2 in. wide, 20f. per fathom; in the 13 fm. level, east of Downright shaft, are 25 ft. 2 in. wide, 20f. per fathom; in the 14 fm. level, east of Downright shaft, are 25 ft. 2 in. wide, 20f. per fathom; in the 15 fm. level, east of Downright shaft, are 25 ft. 2 in. wide, 20f. per fathom; in the 16 fm. level, east of Downright shaft, are 25 ft. 2 in. wide, 20f. per fathom; in the 17 fm. level, east of Downright shaft, are 25 ft. 2 in. wide, 20f. per fathom; in the 18 fm. level, east of Downright shaft, are 25 ft. 2 in. wide, 20f. per fathom; in the 19 fm. level, east of Downright shaft, are 25 ft. 2 in. wide, 20f. per fathom; in the 20 fm. level, east of Downright shaft, are 25 ft. 2 in. wide, 20f. per fathom; in the 21 fm. level, east of Downright shaft, are 25 ft. 2 in. wide, 20f. per fathom; in the 22 fm. level, east of Downright shaft, are 25 ft. 2 in. wide, 20f. per fathom; in the 23 fm. level, east of Downright shaft, are 25 ft. 2 in. wide, 20f. per fathom; in the 24 fm. level, east of Downright shaft, are 25 ft. 2 in. wide, 20f. per fathom; in the 25 fm. level, east of Downright shaft, are 25 ft.

The Mining Market; Prices of Metals, Ores, &c.

METAL MARKET: London, June 17, 1853.

ENGLISH IRON.	PER TON.	IRON.	PER TON.
Bar and bolt s.....	£3 15 0	In sheets d.....	£30 0 0
In Wales a.....	— 3 5 0	ENGLISH COPPER	
In Liverpool a.....	— 3 15 0	Tile, 14 to 28 lbs. a.....	107 10 0
In Staffordshire a.....	— 9 10 0	Tough cake a.....	107 10 0
Sheets, single a.....	— 11 10 0	Sheathing and bolts a.....	0 1 0
Sheets, double a.....	— 13 6 0	Sheet a.....	0 1 0
Hollow a.....	— 10 0 0	Bottoms a.....	0 1 1
rod, round a.....	— 10 0 0	Old a.....	—
rod, rod, square a.....	— 9 10 0	Yellow Metal a.....	0 0 10 0
Rails (Wales) b.....	— 8 10 0	Wetterstedt's Pat. Met. &c ewt. a.....	—
(Staffordshire) b.....	— 8 10 0	Pig.....	p. ton 23 0 0
Railway Chairs, Clyde b.....	— 6 10 0	Sheet.....	— 24 0 0
Pig, No. 1, Cly. b.....	— 2 10 0	FOREIGN LEAD. a.....	
— 2 10 0	No. 1, No. 1, Wales c.....	Spanish, in bond. a.....	22 0 0
Scotch Pig Iron, London	— 3 10 0	Block.....	p. cwt. — 5 8 0
Charcoal bars.....	— 10 0 0	Ingots.....	— 5 16 0
Stirling's Patent Glass.....	— 3 12 6	Bar.....	— 5 9 0
Toughened Pigs f. Glasg.	— 3 12 6	Refined.....	— 5 11 0
Ditto. Wales 4 0 0 4 5 0		TIN-PLATE. b.....	
Swedish	— 12 0 0	IC Charcoal. p. box.....	— 1 11 0
Russian CCND	— 17 0 0	IX Dito.....	— 1 17 0
Indian Charcoal Pigs f. in London	— 6 0 0	IC Coke.....	— 1 4 0
		IX Dito.....	— 1 10 0
		Canada plates a, ton.....	—
FOREIGN IRON. a.....		TIN-PLATES. b.....	
Swedish krg, nominal.....	— 16 10 0	IC Charcoal. p. box.....	— 1 11 0
Ditto faggot.....	—	IX Dito.....	— 1 17 0
On the spot.....	p. ton 22 0 0 22 5 0	Canada plates a, ton.....	—
To arrive.....	— 23 0 0 22 5 0	QUICKSILVER. f. p. lb. — 0 2 4	
Terms— a, 2½ per cent. dis.; b, net; c, 3 ditto; d, 1½ per cent. dis.; e, 2 ditto.			
Delivered in Liverpool 10s. per ton less.			
" Delivered in Liverpool 10s. per ton less.			

FOREIGN IRON. a.....	PER TON.	FOREIGN TIN. a.....	PER CWT.
Swedish	— 12 0 0	Banca	5 10 0
Russian CCND	— 17 0 0	Straits (uncertified). ..	5 8 0
Indian Charcoal Pigs f. in London	— 6 0 0		
		TIN-PLATES. b.....	
FOREIGN STEEL. a.....		IC Charcoal. p. box.....	— 1 11 0
IX Dito	— 16 10 0	IX Dito.....	— 1 17 0
Ditto faggot.....	—	Canada plates a, ton.....	—
Stocks, —		QUICKSILVER. f. p. lb. — 0 2 4	
On the spot.....	p. ton 22 0 0 22 5 0		
To arrive.....	— 23 0 0 22 5 0		
Terms— a, 2½ per cent. dis.; b, net; c, 3 ditto; d, 1½ per cent. dis.; e, 2 ditto.			
" Delivered in Liverpool 10s. per ton less.			

RAILS.—Purchases are not so easily effected as of late; each succeeding mail from America bringing fresh orders. The number of bills for British lines passed this session, which are not mere babies, as in 1845, but grounded upon the urgent wants of the localities for which they are designed, and the roads now making in Canada, Spain, Switzerland, Italy, Sweden and Denmark, will cause the demand during the next year to be unprecedented, unless any great political convolution takes place in the mean time: in addition to this, the requirements of the great projected line in Russia, from St. Petersburg to Odessa, places the English iron masters in an independent position for some time to come.

SCOTCH PIERS are in good request. The Welsh houses are buying very largely, in consequence of the dissatisfaction existing among their men, and the demand for pipes has never been equalled. There are large orders in course of execution for the provincial local boards of health, and new gas and water companies, besides the large wants of the old companies, as the state of our streets will testify, which must all be laid by October next; in addition to which there are on hand large orders from the Continent unexecuted, among them, one from Genoa for 10,000 tons, 18 and 20-inch, the whole to be delivered at that port by the end of September, so that Scotch pig-iron may not by any means be considered a dangerous article, either for capitalist or speculator. The market has fluctuated during the past week from 21. 10s. 6d. to 27. 14s. for mixed numbers; it leaves off at 21. 12s. with strong buyers. The deliveries have been at the rate of 35,000 tons per week during the last four months, while the production has barely exceeded 14,000. Several Scotch iron masters are buying iron to make good their deliveries.

SPELTER is more enquired after, and there are strong buyers to arrive at 22l. ; the stock is diminishing.

COPPER is in fair demand. LEAD is inactive, but prospectively good. TIN-PLATES are in better demand; the production having been lessened has given a firmer tone to the article.

MINES.—During the early part of the week the demand for good dividend shares was kept up, and many large purchases made; but towards the close a few sellers appeared in the market, and prices slightly receded. Some large sales have been made in several speculative mines, but to entice buyers the holders were obliged to submit to very low rates indeed. It is considered that a judicious selection from some half dozen or dozen of our most promising progressive mines would, if bought at present low prices, pay the buyers well in a few months, and with this idea many have been looking out for bargains in Herodsfoot, North Fowey, Uny, West Ding Dong, Pen-y-Gelli, South Towy, Sydney, Orsedd, &c. In dividend mines, Alfred Consols has maintained its price of 18l. 10s. to 19l. and many buyers; West Caradon, 25s.; South Caradon, 20s.; Bedford, 7l. 2s. 6d. to 7l. 5s.; South Tamar, 6l. to 6l. 10s.; Spear Consols, 10l. 10s. to 10l. 10s.; Merlin, 3l. 10s. to 4l. 5s., and in demand, consequent upon a great improvement in the engine-shaft; Orsedd have been dealt in at 2l. 5s. to 2l. 10s.; South Towy, 10s.; East Rose, 180s.; West Providence, 50s.; Balleswidden, 10l. 10s.; Great Polgoon, 2l.; Herodsfoot, 14l.; East Russell, 5l. 6s. to 5l. 10s.

In the Metal Market,—the buoyant state still predominates; in fact the general demand exceeds any former period, especially in all kinds and sorts of Iron, particularly Rails; whilst the delivery of Scotch-pig exceeds 100,000 tons a month. The price is firm at 52s., and some parcels have realized 54s.—Spelter and Copper are in great request; the former rules at 22l. 5s. per ton, and the stocks are lessening daily.—Lead and Tin, although not so freely dealt in, maintain the quotation; and, owing to the makers of Plates abating hands, as we noticed some weeks back, the market is clearing off at a slight advance.

In the Bullion Market,—Mexican and South American dollars, 4s. 11½d. per oz. Bar silver containing gold, all gold above 5 grains in the pound to be paid for, 5s. 4d. per oz. standard. Bar silver without gold, 5s. 1d. per oz. standard. Bar gold, 77s. 9d. per oz. standard.

At Wheal Seton meeting, on Monday, the accounts showed—Balance from last account, 27l. 9s. 1d.; ore sold, less 1-15th dues, 4907l. 5s. 11d. — 5134l. 15s. — Mine cost, March and April, 2798s. 5s. 11d.; merchants' bills, 870s. 1s. 11d.; leaving balance in favour of the adventurers of 147l. 7s. 2d. A dividend of 5s. (5000/-) per share was declared. The report stated that the 120, west of Bull's shaft, would produce 3½ tons of ore per fathom; the 100, west, 8 tons, and the winter below the level, 6 tons per fm. Tilly's shaft goes down 2 fms. below the 100, and entering a fine course of ore; the eastern end was producing 8 tons per fm. The 100, east of Tilly's, would produce 20 tons, and west 14 tons per fm. The winter sinking below the 100, east, on Kneehole's lode, would produce 3 tons of ore per fm.

At Doleonthorn Mine meeting, on Monday, the accounts showed—Balance from last account, 611l. 18s. 11d.; ore sold, less dues, 4140l. 15s. 11d. — 4752l. 14s. 10d. Mine cost, March and April, 2763l. 1s. 3d.; merchants' bills, 1082l. 2s. 6d.; leaving balance in favour of the adventurers of 908l. 11s. 1d. A dividend of 2l. (358/-) per share was declared.

monthly meeting of the Kirkcudbrightshire Mining Company, on

a statement of accounts was submitted, showing—Balance in hand on the

45l. 6s. 2d.; by sale of 49 tons 13 cwt. of lead, on 12th May, 653l. 19s. 3d.

5d.—Mine cost for May, 336l. 13s.; leaving a balance of 768l. 12s. 5d. A

dividend of 1s. (16/-) per share (160s.) was declared.

Consols meeting, on Saturday, the accounts for Jan. Feb.

March, 1853, showed—Balance last account, 407l. 15s. 8d.; ore sold, 1165l. 10s. 6d.

— 405l. 15s. 8d.; leaving balance in favour of the adventurers, 349l. 13s. 8d. A

dividend of 1s. (16/-) per share was declared.

general meeting, on Tuesday (Capt. Clymo in the chair), the accounts showed—Balance from last account, 518l. 15s. 8d.; lead ores sold, 1161l. 2s. 6d.

Mine cost, Jan., 1222l. 7s. 3d.; Feb., 1161l. 2s. 6d.

— 258l. 15s. 8d.; merchants' bills, 244l. 3s.; leaving balance in favour of the adventurers, 312l. 15s. 8d.

The lode in the 100, north of the 45, was 3½ ft. wide, worth 12s. per fm. It lay near the surface, in favourable drifts, and was worked by a gang of lead miners, computed to consist of 12 men.

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NOTICES TO CORRESPONDENTS.

INFRINGEMENT OF PATENT RIGHT.—SIR: In your Journal of last Saturday, to my surprise, I observed that Mr. Samuel Hall claims a patent for a Double-acting Self-regulating Safety Steam-valve, made to set on the same principle as my specification of some months back, published by you, even using the locked guard or casing to prevent undue interference, &c. By referring to your last week's issue, you will observe the same principle in its simplest form, made to act either without or within the boiler; the reason I prefer the lever inside is, that a spring may be used to assist the weights, also by acting independent of them whenever any increase of sensible heat should ensue, by relaxing its tension, and thus mitigating the pressure on the valves at the most critical moment, when most needed, as more boilers are burst from the transition of latent to sensible heat than from the progressive pressure of steam on them.—G. F. GOBLE: 7, Trinity-street, Borough, June 15.

C. R. D. "—The particulars were correctly given in our last:—Average standard, 12*lb.* *sq.*; produce, 7.—Price, 5*s.* 1*d.*

Capt. Matthew Francis is, we believe, about visiting Ireland, under an engagement to inspect some mineral properties. Parties requiring his services while there can address their letters to the Hall of Commerce.

The writer of the letter on the Wheal Mary Ann meeting, and the accounts submitted, should have authenticated his statements, by appending his name.

NEW PATENT LAW.—The Patent Right for Inventions Association (late the National Patent Law Amendment Society) held a meeting of the council and friends of the cause at Easter's Hotel, Southampton-street, Strand, on Monday, to consider the danger and damage to inventors' rights, resulting from the proceedings of the Commissioners of Patents, in regard to excluding the colonies from the Letters Patent under the New Patent Act; and also from the change proposed in clause 2 of the Copies of Specifications Repeal Bill, now before Parliament, which will throw the provisional specification lodged with applications for patents open to public inspection before the patent is completed. We are glad to see that our old correspondent Mr. Campin, is again on the *quaere*, for, we believe, he is one of the principal movers in this matter, as he was the first to warn the public, in the columns of the *Mining Journal*, of the true character of this bill. The meeting passed several resolutions; such as affirming the necessity for this association being constituted a permanent one, to secure the fuller carrying out of Patent Law Reform, and for aiding and assisting inventors generally, and adopting a petition against the proceeding of the commissioners, as regard the colonies, and the above clause of the Copies of Specifications Repeal Bill.

J. W. R. " (Dublin).—A report from the North Cardigan Mine appears in our present Journal. Transfers will shortly be issued for the bankers' receipts; of which, of course, notice will be given.

FLYING ON THE WATER.—An illustrated description of Mr. D. S. Brown's invention will appear in our next Journal.

B. H. J. " (Penzance).—The East Herland Company is formed with the determination of working the seat. Amongst the shareholders are several highly respectable gentlemen.

"Omega" wishes to know whether the Trevorgus Mining Company is now in existence; or, if not, when it was dissolved?

G. M. " (Whitby).—We shall be glad of an occasional communication.

Capt. W. Verran arrived in London on Tuesday from his tour of mining inspection in Cornwall, Devonshire, and Wales, but his engagements compelled him to leave on the following day—letters will now reach us addressed to Capt. Verran, at his residence, Llanidloes, North Wales.

METAL TRADES OF LIVERPOOL.—Mr. Braithwaite Poole's second paper, with several other matters, unavoidably omitted, will be published next week.

A pressure on our space has compelled us to omit many replies to correspondents.

Just published, price 2*s.* 6*d.*

THE MINING GUIDE:

Containing the following particulars respecting each British and Foreign Mining Company:—

Name of mine	Captain
Produce	Committee
Where situate	Secretary
Purser	Offices

WITH THE MINES OF LAKE SUPERIOR, AND AMERICA.

Also the NAMES AND ADDRESSES OF MINING AGENTS AND DEALERS IN SHARES.

To which is added,

A COMPLETE SET OF AMENDED RULES FOR THE MANAGEMENT OF MINES ON THE COST-BOOK SYSTEM.

The object of the *Mining Guide* is to afford a means of communication between inventors and others with parties connected with the working and management of mines, to introduce manufacturers applicable to mining purposes; acquire information, &c.

THE MINING JOURNAL
Railway and Commercial Gazette.

LONDON, JUNE 18, 1853.

The reports of the Government Inspectors of the various coal districts in England have been frequently referred to as evidences of radical improvement in our coal mine management. The value of these official documents consists less in their being indicative of what is required, than in their being descriptive of what has not, although it might have been, effected. Mr. MATTHEWS DUNN, no farther back than 1851, having inspected, by order of the HOME-SECRETARY, the collieries in the counties of Durham, Northumberland, Cumberland, and the mining fields in Scotland, individualised his opinion in favour of Durham and Northumberland, by the record of a decrease of accidents; owing, as this very intelligent and scientific officer declares, to a better mode of ventilation, better gear, efficient overseers, and deputies, and, finally, to what we suppose to be an advance of civilisation amongst that respectable body, the vicars of managers in laudable efforts to discover "the most effective means of safety."

What a nice place for mining, and how carbonaceous haleyn must be the existence of the Durham and Northumberland colliers! There is not a word about the social and moral condition of the people in this summary, and we are left on this point to imagine

"That a moral magic's in this labour,
To make each man better than his neighbour."

In Cumberland, Mr. DUNN found, with few exceptions, everything being hindhand; and in Scotland—alas, the stones of "Auld Reekie" cannot arise and prove an indignant refutation!—The department exhibits a greater succession of accidents in proportion to the number of persons employed than in England. Here the workings were all discovered to be ill-regulated and dangerous in the extreme, but it is pleasing to read, that throughout all the districts, the suggestions of the Inspector were well received and generally adopted; and, finally, Sir GEORGE GREY, then at the head of the Home-Office, was enlightened by the information that the Act was working in a beneficial and satisfactory manner.

Now, with the highest appreciation of the well-proved merits of Mr. DUNN, and also of his colleagues, we deny that the Act has worked satisfactorily, inasmuch as glaring abuses, which it ought to have remedied, still endure: and why? Because the enactment squeamishly and mischievously withheld from the Inspectors the power of enforcing the right observance of all which they deemed it their duty to suggest. This wondrous delicacy about interference with ownership has rendered this species of legislation a mere theory, at once anomalous and delusive. It would be easy to cite proofs of the truth of this assertion. Disasters are on record, which, having occurred within the last six or seven months, are fresh upon the memory. Acknowledged to have their origin in the general ignorance and criminal neglect of the persons employed, they cannot at this moment be concealed by any sophism, however ingenious; but there presents itself upon the face of the report we particularly allude to, the narrative of an appalling catastrophe, which occurred at WASHINGTON COLLIERY, in the much lauded county of Durham, only one short month or so after the Inspector's paper was dated; and this is too strongly corroborative of the evil consequences of a system, under which the most active surveillance and most zealous performance of official duties can be frustrated and rendered perfectly and essentially null, to pass it over in silence.

Mr. DUNN, be it remembered, considered it his duty—and no doubt it was to him one of the most pleasing and cheering nature—to note down on the 16th of July, 1851, his opinion of the great care and attention which managers and owners were then taking in a particular locality; their desire to adopt necessary and indicative changes in the pit workings was cordially acknowledged, and the aptitude of all thus summed up:—"The whole system being managed by persons of practical intelligence, under the control of the viewer." An explosion, resulting in the death of thirty-five men and boys, melancholy to relate, destroyed, on the 19th of August, the hopes indulged in, and dissipated the illusion, while the Inspector, too late, discovered that his powers could be evaded; and he was called on to condemn the whole mode of operations on a spot where he had been led to suppose his advice was heeded and his directions sedulously attended to. Had he or his deputies the authority to do something more than advise, the scientific principles upon which alone coal mining can be advantageously carried on would have been put in force—the lives of those thirty-five victims would have been preserved from the fatal effects of their own ignorance and fatuity, and from the apathy of their employers. We at times have been induced to moralise on the existing influence on society generally, even at the present day, of those barbarous laws which once made colliers transferable with the property, which shut them out from the benefits of the HABEAS CORPUS ACT and other constitutional privileges;

and we confess that we have been inclined to the suspicion, that modern proprietors and their subs have somehow or other inherited the unconsciousness that their men, the hard-working, toil-worn, ill-housed, ill-fed, and neglected community, are not still the mere living lumber of their mines. And yet thirty-five millions of tons of coal, or thereabout, come to surface through their labour!

But it is now to be considered, what is to be done for the amelioration of the social state of the working miner, and for the prevention of those evils, so afflicting in their tendencies, through which so much life is sacrificed and property destroyed. The Committee of the House of Commons about to deliberate on the best means to be adopted, will, it is to be trusted, unlike former amusees, do something more than bring before them mere theorists, and amusees the country with ingenious nonsense, impractical opinions, impotent speculations, and blue-books. They can call to their council men of known experience who have been underground, who do know a goaf from a gully, and whose opinions, matured by long experience and practical observation, can be made the basis of sound legislation. It has never fallen to the lot of any assembly to deliberate on a more interesting subject. Mining is an element of the wealth of the land—it is a constituent of national greatness; and yet the coal-fields of England, vast in their extent, and inestimable in richness and quantity of product, have been for centuries left a waste of labour, a dreary comparison between debasing servage and intelligent and prosperous industry. The civilisation of the age, independent of conventional interests, requires that this state of things should be altered. No one can deny, and we are truly desirous to give honour where honour is due, that attempts have been made at improvement; but the appointment of a few inspectors, certainly men of high standing, great probity, and unquestionable ability, cannot be estimated for more than it is worth. They are but the mere models of power, and nothing more. The law makes them so—it appears to regard them as peculiarly adapted to the feet of jumping in sacks, to show what exertion can do, even under circumstances which tether the powers and contract the will. These gentlemen are singularly placed: everyone expects them to do everything, limited though they are in number and authority; and had each the ubiquity of Sir BORTLE ROCHÉ's bird, and therefore the capability of being in "two places at once," it would not suffice for the onerous duty imposed upon them. But a change is coming fast, and let us anticipate that it will completely establish a legislative ordinance, appropriate to and commensurate with the subject matter before us.

The reformed system should involve an increase in the present staff of inspectors, who, as a body, would constitute a court to which appeal could be made by owners or managers, in the event of any vexatious or unnecessary interference by any one of the officers, an ultimate appeal to be allowed to a still higher authority in London.

A school of mines, on the principle of the *École des Mines*, in France, ought to be at once founded; and, allowing a certain time to elapse, no person should be permitted to hold a responsible situation in a mine, unless he had first received a certificate of competency from the board of examiners, which certificate should be countersigned by the inspector or inspectors of the district. Inspectors should be made responsible for the persons nominated by them, and illustrations of works, old, actual, and intended, should be made at stated periods, and registered, as authenticated charts of mines in operation, in local offices, to which reference could be made. It is unnecessary to notice the minor but no less essential duties which necessarily belong to the inspectorship, such as strict attention to the gear of the mine, general security of the shafts, proper ventilation, and use of the DAVY lamp, and we, therefore, arrive at the consideration of the best mode of providing a resource for the aged, the disabled, and the widows and orphans of those who have fallen, or may hereafter fall, victims to explosions and other accidents.

In Belgium, and, indeed, throughout the continent generally, "*caisses de prévoyance*" are opened for the encouragement of forethought, or rather foresight, in the mining population, with regard to their forming amongst themselves a fund for the support of those who are, through age or accident, disabled; and, lastly, to secure some provision, including education, for the families of persons who have perished in the mines. This society is governed by regular statutes; the subscriptions are derived at the rate of one-half per cent. of the wages of each workman, and the employers are bound to pay a similar sum. The Government also gives a certain annual amount; and, while the financial business of each local *caisse* is conducted by certain subscribers and master-workmen, the governors of provinces oblige each board to render them annual accounts. Such is the resource of the continental miner, and incalculable are the advantages he derives therefrom. The spirit of prudence and of saving which it induces makes many a fire-side happy, and insures to the parent the solacing confidence, that in case of death or injury to him, his children are not only provided for corporally, but mentally. The curse of poverty does not blight them body and mind: they are fostered and cherished by the combined providence of the community to which they belong, not, as in this country, by the mere charity of their fellows.

An institution of this sort, but on a larger and more extended scale, is applicable to ourselves. We would propose the establishment of a "MINE-BANK OF ENGLAND," the capital to be derived from the contributions, through local boards, of the workmen, managers, and owners. Thus, in a few years, through management, a good disposition of property, and the continued monthly accumulation of the amount subscribed, would there be a fund sufficient to meet every casualty and every demand. The Government should lay the foundation of this structure through a grant, and should regulate its management; and, whether we regard the principle as a matter of sound domestic policy, or of charity, philanthropy, and benevolence, it is evident that the present state of our mining population requires such aid and such protection.

Events of the last few years have shaken all confidence in associations, such as benefit and burial societies; the people in the country are incapable of conducting them properly; through them prudence is not unfrequently found to degenerate into morbid and criminal speculation. The course to pursue now is plainly traced for the Government of the country. It has but to apply itself to the scientific management of the coal mining industry: and this can be done without interfering to the disturbance of private rights—evoke the intelligence of this people; give them an education, partly dependent on their own labours, for that begets independent feeling; make, through their appreciation of a higher scale of social being, their homes happy. The "Cotter's Saturday-night" will trim the hearth, and Religion will preside, happily, enduringly, and the last hope in their life of toil will brighten in her radiance.

Since writing the above, we have been favoured with a note of the queries to be propounded by the Committee now sitting on the causes of accidents in coal mines. To this subject we have long paid, from motives of duty, as well as from feelings of humanity, the closest attention; and we can only say, that the document now before us contains an inquisitorial matter of the most paramount importance to the right solution of the question. The hon. Member for Lytham, Mr. E. J. HURCHIN, has embodied as principles of enquiry, effective ventilation and working, combining the comparative efficiency of the furnace and steam-jet; the distribution of air-ways; construction of up-cast shafts; general structure of roof and sides, together with the shifting and lifting gear of mines. Next in gravity comes the improvement in the safety-lamp, of which we may be allowed to remark, that, allowing due merit to recent discoveries, we think that, could the DAVY lamp be improved in brilliancy or "edgurance," nothing could be found more effective. However, whatever construction may be adopted, the miner must be rendered, through instruction, capable of appreciating the danger of recklessly tampering with his lamp in the loaded atmosphere, to which he is incidentally subject.

The inspection of mines is alluded to in our leading article: our notions of its arrangement are derived from long experience, and it is evident, whenever it shall come to pass, that a good system of inspection is in force, there will be less need of coroner's juries and the legal assessment of damages. At the same time, we do not agree with those who advocate special coroners. In a very recent case we had to comment favourably on the views taken by a coroner in his just and effective charge to the jury. The case was very intricate, but no special officer could have done better: his analysis was equitable, pointed and correct in all its bearings. This duty ought to be left to the present system.

Where carelessness is proved by the inspection of two Inspectors, the law ought to act, severely both as regards the miner and the master. The inspectors should have, as on the Continent, plenary powers to bring to summary punishment, through magisterial authority, whether by fine or imprisonment, all who neglect the protective orders registered and exhibited as the rules to be observed in coal mines.

Education of the coal mining community should be at once made the

centre of all future proceedings. The funds for this purpose should be made derivable partly from labour and partly from governmental support; for it is to be feared that were it totally on the endowed system, such is the anomaly, it would not be so thoroughly appreciated by the people. The support of widows, orphans, and the aged should be dependent on a general fund. The constitution of such a system requires to be discussed more fully. Having thus far glanced at the subject matter of the information sought after, and recording our thorough estimation thereof, we shall address ourselves, in the next number of the Journal, to the details of the proposed change in coal mine management.

THE IRON AND METAL TRADES OF SOUTH STAFFORDSHIRE.

[FROM OUR CORRESPONDENT IN BIRMINGHAM.]

JUNE 16.—Although we have not to report either a diminution of orders or suspension of works, there has been nevertheless rather a caution than an over-speculating tendency amongst all classes of commercial men during the past week, in consequence of the unsettled state of continental affairs. The share market has been inactive, with rather a disposition to sell than purchase, and nearly all descriptions of securities have participated more or less in the doubtful position of the Eastern question. Exclusive of the great and general interests involved in the present dispute, there is a peculiar description of copper imported from Russia, of considerable utility in the manufacture of certain articles; and, although we should not find much difficulty in procuring a substitute, some inconvenience would be felt in any stoppage of the present supply, and hence an increased desire on the part of one important section of our manufacturers for the maintenance of peace.

With reference to the price of copper, it has been rather firmer during the past week. There has not been any reduction, but rather an upward tendency.

Tin remains stationary, with a brisk demand. The Australian market continues to pour in large orders for tin goods, and the manufacturers are at full work on all kinds of tin articles for domestic purposes.

The last arrivals from America and the Canadas have brought us some large orders for general hardware, the execution of which the merchants find exceedingly difficult, owing to the scarcity of goods amongst the manufacturers.

The iron trade is still rather unsettled. There has been an evident giving way on the part of some makers of both wrought and pig-iron, and the next preliminary meeting is looked forward to with unusual interest. By some it is believed that a reduction of some 20s. a ton will be declared, to meet which a corresponding reduction of wages will be required from the men; but, judging from appearances, it will be found that it was much easier to advance wages than it will be to reduce them, and whoever calculates upon a quiet surrender by the men of the present advantage which they possess, will find himself much mistaken. The proposal of a reduction of wages now would be attended with a strike, highly injurious to all parties; and the less such a means of meeting the difficulty, if any should arise, is thought of at present, the better. In connexion with the trade, there is another feature, of no small importance, now occupying attention: I mean the successful mining operations now being carried on in the county of York. It appears that, during the last twelve months, large profits have been realized in the above county on pig-iron, which has been produced at 27s. and 30s. per ton, and sold at 60s. The success of those engaged in the trade has stimulated to still greater speculation, and many new districts have been explored, and found to contain an immense yield of iron-stone of the best quality. Cleveland and Whitby, in the North Riding, appear, from the most recent accounts, to abound in this description of mineral wealth, and twenty new furnaces are in course of erection. Impressed with a conviction of the importance of the vast discoveries which have been made, a deputation recently waited upon the Newcastle and Berwick Railway Company, to submit to them the propriety of making a branch line through the district, and I understand the country has been traversed for the purpose of inspection, and with the most satisfactory results. If, therefore, all the accounts we receive here relative to those mines are true, we must calculate upon the Yorkshire yield as likely to operate rather injuriously to the interests of this locality.

Of the mining companies in other parts of England, in which we are more immediately interested, because of our local boards and proprietary, I am able to report favourably upon the West Crinnis Copper Mine, Cornwall; the managers have forwarded interesting details of their operations. A highly promising lode has been cut in the engine-shaft, which presents the mine in a still more favourable light than ever, as there can be little doubt that at its junction with other lodes good deposits of copper will be found. Mr. Lewis, the purser of the Mixon Great Copper Mine, has also received a highly satisfactory account from this mine. Indeed, I examined to-day a box of specimens of the lode lately cut in the shaft, and from which it is evident that it is strongly impregnated with copper, and there can be little doubt it will hereafter prove a valuable discovery. The walls of the engine-house are rapidly going up, and will be finished in a fortnight. The labour-market in this district is still unsettled. The painters are now moving for an advance of wages; and a curtailment of the hours of labour is now being sought for by all classes of operatives. The most influential manufacturers have granted the half-holiday, as it is termed, on Saturday, and the clerks engaged in the warehouses, public offices, banks, railway establishments, &c., met on Saturday evening last, and formed an association having for its object the attainment of the half-holiday. This evening the working classes are assembled at the Public Office to consider the practicability of providing themselves with parks, play-grounds, &c.; and where the present movement amongst the labouring classes is to end time alone can tell.

THE ROYAL HIBERNIAN MINING COMPANY.

Our attention has been directed to an advertisement in our last Journal, signed the "Secretary of the Royal Hibernian Mining Company," stating that Mr. Henry Gibson had nothing further to do with that company; and that at a meeting of proprietors, on the 20th October last, when the company was being formed, and prospectuses issued, a gentleman, named Williams, refused to have his name associated with Mr. Gibson's, whereupon the latter was requested to, and did, retire. We have now before us a resolution of the company, passed on the 22d October last, wherein it is stated that Mr. Henry Gibson requested that his name should not appear in the prospectus; he had consented to continue to hold his present office of general manager, in accordance with the unanimous desire of the directors, but that he intended recruiting his health by a few months' absence from all business. This resolution was carried without a dissentient voice, and handed to Mr. Gibson, with the signature of "H. Larchin," the chairman of the meeting. In our Journal of the 1st May, 1852, is a speech of Mr. H. Larchin, alluding to the many years he had known Mr. Gibson, and also the high respect and esteem he had always held him in, for his enterprising and generous spirit, not only as a miner, but as a merchant—in proof of which he stated, if any other man in Ireland had solicited him to join a mine, he would not have done so; but he knew Mr. Gibson so well, and that anything he undertook would be carried through with the greatest perseverance, were it possible that such a thing could be done.

We also find in the columns of our contemporary, the *Trade Chronicle* of May 29, 1852, that the same gentleman, as the chairman appointed by Mr. Gibson of the Royal Hibernian Company, in a speech made by him in the presence of some thousands, stated that he had been for some years in business, and had met many active, enterprising, and energetic gentlemen, but he had never met one, in all good points to be found in a mercantile man, equal to his friend, Henry Gibson. Therefore, with this document, and these statements before us, we naturally ask, who is the manager of the Royal Hibernian Mining Company, if this resolution has not been rescinded?

As this has brought Mr. Gibson's name very prominently before our readers, we take leave to say that we have before us letters from the first merchants in the City of London, from which we are able to glean their high estimation of Mr. Gibson, as a friend of mining as well as a merchant; and we feel confident Mr. Gibson has not only the interests of the Royal Hibernian Company, but also that of mining in Ireland generally, at heart: for at the commencement of this undertaking, it is well known, Mr. Gibson prosecuted it with unabating zeal and untiring energy, and most anxiously looked forward to its being crowned with success.

The shareholders of this company can have no one who wishes better than that he does; and we trust, having said as much as we have, that the subject will not again be made one of public discussion. The advertisement, we doubt not, was sanctioned by the board of directors, although signed "The Secretary." Mr. Gibson, we may add, holds two original 64ths of the adventure, and not two shares.

ELECTRIC GAS.

The proverb says, "There is nothing new under the sun;" we have been led to doubt the truth of this, from having lately witnessed a private exhibition of "Electric Gas." That is, gas produced from water by means of electricity, and by which is developed, for the first time, the extraordinary phenomena of burning the two gases together, without the least fear of explosion, which the most scientific and learned of men have ever hitherto deemed an impracticability. But we have witnessed the result, and can attest its truth.

The gases produced by electricity are entirely free from smoke, have no deleterious or noxious odour, and are free from all possibility of explosion; each of which advantages are of so important a character, as to be alone sufficient to ensure public support. Its production requires no expensive materials, nor are large premises necessary, whilst all existing pipes and lamps may be used if requisite; and in the economy of production there will be a saving of at least 50 per cent. upon the present cost of coal gas.

The metropolis alone consumes 18,000,000 cubic feet of gas daily, which at £s. d., per 1000 cubic ft. (the average price paid by consumers) amounts to £473,250 per annum. From this fact, some idea may be formed of the immense amount paid annually for gas throughout the whole kingdom. There are in Great Britain 775 distinct establishments for the manufacture of gas, which represent a capital of 15,000,000 sterling.

Dr. Lethby, in his recent report to the Corporation of London, says: "All the coal gas of this metropolis invariably contains sulphureted hydrogen, and another sulphur compound, and that by the combustion of these bodies an acid is generated which has the power of exerting a most destructive influence on goods of a perishable nature, and of producing injurious effects on the health and comfort of those who inhale it;" and in conclusion, he says he believes that "the valuable and economical application of gas to heating as well as illuminating purposes is only just beginning to be made available, and that the time is not far distant when its applications will entirely supersede the use of coal, and so be the means of rendering the atmosphere of this metropolis as free from soot and smoke as that of any city in the world."

Cooking by gas has made but little progress as yet, in consequence of great prejudice against it,—this prejudice must be altogether removed by the use of gas produced by electricity, on account of its perfect purity and cleanliness, and great economy.

Heating by gas is much more advantageous than by the ordinary coal fire, as even in the most economically constructed stoves more than three-fourths of the heat is lost, and in the common fire-places in general use the loss is still greater. By using the new gas not one unit of heat need be wasted, and it is impossible for one particle of soot to be deposited.

As regards the extent of premises required, it will be sufficient to state that each machine will measure only 13 ft. in length, 4 ft. in width, and 6 ft. in height. 30 of these machines, occupying only a moderately sized room, will be capable of producing 144,000 cubic ft. of gas per day; the cost of producing which will not exceed 2/-, or a fraction over 3d. per 1000 cubic feet.

The application of this discovery in the form of motive-power, possesses advantages even greater than those already enumerated. A small machine, which can be appended to a locomotive, will produce a sufficient amount of heat to supply the place of the furnace, thus superseding the use of coal altogether. The same principle is applicable to steam engines generally, in whatever way used, and peculiarly so to marine engines. The enormous advantages which ocean steam vessels will secure, not only from the saving of coal, but in the space occupied by its storage, are so apparent as to speak sufficiently for themselves.

The electric light is another use to which these machines can be applied, and this can be obtained at a merely nominal cost. The character and brilliancy of the electric light is too well-known to require any comment on the superiority of its illuminating power; but the difficulty of obtaining it sufficiently cheap, has hitherto prevented its adoption. The only mode in which it has been heretofore produced has been by galvanic batteries, at an enormous waste and expense; now, however, by one of these machines, a continued brilliant light can be produced at an expense of only a few shillings. The electric light can be applied to many purposes; among others may be particularly mentioned light-houses, signals at sea, ships in convoy, lights for vessels, railways, lighting tunnels, mines, and diving bells,—for all of which it has advantages which no other illumination can equal.

Mr. Gamble, a scientific gentleman connected with gas-works and rail-

ways, has made a report on this electric gas, in which he says:

I cannot find language sufficiently expressive to convey the astonishment I experienced at witnessing the effects of the electro-magnetic machine in the production of water, as applicable for the purpose of artificial light and heat by the decomposition of water. Water is found, on a chemical analysis, to be composed of two permanently elastic fluids, or gases, called oxygen and hydrogen. When water is decomposed an enormous increase in volume is the result; this increase is about 2000 times. It has been long-known that water is decomposable by electrical agency, but this has been generally effected by the action of a galvanic trough, at an expense so great as to be commercially prohibitory.

But by the magnetic apparatus the expense is very trifling, being little more than the interest on first cost of the machine, with a small addition for renewals, and the cost of the motive power.

The decomposition of water for the purpose of obtaining a gas applicable for the production of artificial light and heat, has long engaged the attention of chemists, and numerous discoveries profiting to attain this desideratum have been made, all these (so far as I am acquainted with them) have for their object the separation of the hydrogen gas only; no attempt I believe has hitherto been made to make use of the oxygen.

The general mode in which the hydrogen is obtained is by passing steam through scrap iron, or a variety of other materials heated to a high temperature; in this manner the vapour of water is decomposed, the oxygen unites with the heated solid body, and the hydrogen is liberated in the gaseous form, and collected in a gas-holder.

But the gas resulting from the decomposition of water by the magnetic machine is altogether different.

Here is collected not merely the hydrogen, but the oxygen also; this increases the volume of production one-third, and the gas is altogether different in its composition, from oil or any other fuel, an enormous amount of carbonic acid gas, some sulphurated hydrogen, and other gaseous bodies inimical to animal and vegetable life, are generated during the process of combustion, also a vast amount of unconsumed carbon is carried and held in suspension in the atmosphere in the form of smoke.

This cannot be the result of the combustion of the gas produced by the magnetic machine; the oxygen and hydrogen again re-unite, and the result of their union is the re-formation of the compound from which they were originally taken—viz. water. I am afraid I shall tire with this long report of a subject which I consider is of a magnitude that renders it superior even to the most gigantic of this age of wonders.

Dr. Leeson, A.M., F.R.S.; Prof. Holmes; and Lewis Thompson, Esq., M.R.C.S., have also given the most satisfactory reports on the illuminating power of this new gas.

MINING MAP OF THE TAVISTOCK, PLYMOUTH, AND LISKARD DISTRICTS.—We are glad to hear that what is in reality a desideratum in the mining world is about to be supplied by the publication of a map, on a rather large scale, of the mining districts embraced by the country from Bridestow, in Devon, to Plymouth, and from Liskard, in Cornwall, to Bottle Hill, including Tavistock (in width about 25 miles, and 30 miles in length), and having each mine and "set" distinctly marked. Such a work, which has been undertaken by Messrs. Symons and Son, of Truro (a guarantee for its accuracy and merit), will enable, not only those directly interested in mines, the broker and agent, but also the public and adventurers themselves, to establish at once the whereabouts of a mine, and consequently to facilitate its inspection. The "diffusion" of mining "knowledge" is as essential to the interests of buyers as of sellers of mining shares, and we have no doubt the former class will avail themselves extensively of the forthcoming work, which is intended to be issued at a moderate cost, on rollers, or in case, to suit the taste or convenience of purchasers.

HITCHINS TESTIMONIAL.—The presentation of the mining testimonial to Josiah Hugo Hitchins, Esq., will take place at the Bedford Hotel, Tavistock, on Thursday next, the 23d inst.

WADEBRIDGE.—Slate quarries have been partially worked at a profit in this district for many years; but now their value will be fully ascertained, it being the intention of parties, aided by and under the recommendation of gentlemen resident in the district, to properly explore and carry them to; and from the fact of the quarries producing slate of a superior quality, possessing many local advantages, being situated not far from Dolabot, close on the borders of the navigable river Camel, within the port of Padstow, being approachable by vessels of large size at all tides, and from the greatly increased demand for slate for various purposes, there can be little doubt that the parties investing their capital will be handsomely remunerated for the outlay.

ANGARRACK CONSOLS.—We have seen the prospectus of a company that has just been formed, the committee of which includes names of mark and likelihood, for the working of the Angarrack Consols Copper and Lead Mine, which is a continuation of the well-known and highly productive Alfred Consols and Great Wheal Alfred, and comprises the Mellinwell seat, in Phillack, and the Cold Harbour, in Gwennap. We do not so much rely upon the reports of the mining engineers comprised in the prospectus, although they are very satisfactory, as upon our own knowledge of the mine. They contain several fine copper lodes, cinnabar lodes, and bismuth, and we have no doubt, especially as we find the workings already carried to a considerable extent, that the Angarrack Consols will prove a most profitable and speedily returning adventure.

PENCORE CONSOLS (ST. ENODER).—The reports from this mine indicate me to pay it a visit, when I was agreeably surprised to find such a rich mineralized seat. In the adit level, which is about 8 fms. deep, they have cut five lodes; two of them are situated in the first 150 fathoms from tail of adit, and running east of north and west of south, in a beautiful congenital stratum for lead ore, consisting of mica-schist, traversed by quartz veins, an eolian course, and containing small cubes of mica-schist, with spots of lead. The other three lodes contain jack, spotted with yellow copper ore, and running north and east and south of west. From present appearances, if wrought out to a further depth, it will be a valuable concern; indeed, it has every appearance of being a great and good mine.

ON THE MOLECULAR ARRANGEMENT TO WHICH METALS AND METALLIFEROUS MINERALS APPEAR SUBJECT.

BY FERD. W. JOHNSON, ESQ., F.R.S., F.G.S.

Everybody acquainted with metallurgy and mineralogy are aware that there are certain metals which form perfect alloys with others, without destroying any of the characteristics of either, and that in some cases these metals may be mixed in indefinite proportions; while in others there seems to be a certain line or extent to which two metals can be mixed without materially affecting the character of the alloy, although beyond this point a totally different compound, or rather a compound of character different from those of which the alloy is formed; as in the case with mixtures of copper and tin, forming gun-metal and bell-metal. In many metals the character of ductility is destroyed by the very smallest proportion of any other metal.

In what manner are we, then, to account for these phenomena, when two perfectly ductile metals will, in some cases, form a perfectly ductile alloy, while in others (or as before stated), in different proportions, the two metals combined form a brittle mass; this, as in many other subjects, because we know the effect without the cause, is often overlooked or not enquired into; but when once reflected upon, with the knowledge that nature is perfect, and that every metal has its peculiar crystal when in a solid and uninjured form, or not distorted by mechanical pressure or heat, even as the leaves or flowers of plants have their peculiar pattern, it must appear to every one to open a source of enquiry of the highest interest, not only to the intellectual mind, but likely to be of the greatest advantage in the prosecution of the arts.

It must have been observed by many, that some metals and many compounds, when exposed to a certain degree of heat under that of fusion, and in either an oxidizing or deoxidizing atmosphere, will become what is termed brittle, which on examination will be found to be occasioned by the atoms of metal taking or forming into their natural molecular arrangement; or in other words, taking their natural crystalline form as oxides of pure metals showing by the lens, when broken, the natural facets of the crystals. With wires used for musical instruments, the same effect has frequently taken place under the influence of vibration.

There are many interesting facts as regards the molecular arrangement in metals and metallic alloys, the capabilities of one over the other of conducting electric currents, and their capacity for conducting calorics, which, when followed up, are of the highest interest; and much I regret that my incessant professional occupation prevents my making a series of experiments, but feel it may be of some service to call the attention of others who have better opportunities, my own impression being, that there are certain points of definite proportions of alloys which for particular uses may be formed to advantage, as is now the case with their oxides, salts, and other preparations, from such substances existing in their definite proportions. No one can doubt the existence of some power which is not only essential to the formation of metalliferous compounds, but an agent to unite certain classes, whether in a metallic or mineral state, as in few or no instances are found minerals perfectly free from some metal or mineralised metal of a different description, and if not in immediate combination, in close contact. Thus gold in no instance is found perfectly pure, its usual alloys being silver and copper. Lead is never found perfectly free from silver. The first of these, from some affinity of molecular arrangement, can be mixed artificially, by heat, in any proportion; in the second case, lead is capable of combining with, or rather allowing a large or small portion of silver (combined with some lead) to exist between the lead crystals, so as to give it the appearance of perfect combination, without injury to its malleability.

Arsenic and cobalt may also be considered to have great affinity, as they are usually found in nature associated with each other.

Other metals, as tin, antimony, zinc, and in fact all, when mineralised without admixture of foreign minerals, and in a high state of crystallisation, will have their true and definite proportions of oxygen, sulphur, carbon, &c., by which they are combined, but appear to vary, from the more or less admixture of other metals.

It has often been an interesting enquiry with me, whether and in what manner the various character of rocks or earthy gangue of the metalliferous minerals are affected, and I have observed that part of a lode or deposit is frequently deprived of a part of its composition by the proximity of some metalliferous mineral or rock, appearing as if nature was trying, by the great power of electric current, to perfect the peculiar molecular arrangement of the indivisible matter, and that this is assisted or, rather united, by the different character of the rock (generally harder than the gangue of the lode) forming a depositing pole. The same order in nature seems working on a large scale in metalliferous deposit in the earth, as we find in the laboratory, to produce the true and perfect molecular arrangement of mineral substances to their definite crystals and perfecture of form, but being acted upon by a variety of other matter, although of similar character, of a different nature and under different laws of molecular arrangement, or, at any rate, the molecule arranging themselves differently, and thus producing an apparent confusion of the arrangement.

WEEKLY LIST OF NEW PATENTS.

WEEKLY LIST OF PATENTS SEALED.

N. Seward, Cahercolli, Limerick—Applying hydro-pneumatic agency for obtaining motive-power.

W. Henderson, How-common—Manufacturing sulphuric acid and copper from copper ores, regulares, and mattes.

J. Murdoch, 7, Staples-lnn—Improved construction of portable voltaic batteries.

W. E. Newton, 60, Chancery-lane—Engines to be worked by air or gases.

D. Zener, Newcastle-upon-Tyne—Treatment of ores and other substances containing metals, to obtain products therefrom, and the apparatus used therein.

W. K. Whytehead, Corhill—Steam-engines and steam-boilers.

J. M. Hyde, 1, Quay, Bristol—Steam-engines, and the production of steam in connection therewith.

J. P. Flore, Paris, and 16, Castle-street, Holborn—Improved method of producing simultaneously gas-light and lime or plaster.

W. Radford, Buckingham-street, Lieut. H.N.—Construction of metallic beams or bracings, and metallic sheets or plates, applicable to the building of ships and other structures, where lightness and strength are required.

W. H. Harman, Northfleet Dock-yard—Steam-engines.

T. Edwards, Islington Foundry, Birmingham—Steam-engines.

W. W. Stephens, Edinburgh—Application of retorts in gas-ovens or other ovens, and of gas-ovens or other ovens which are constructed as retorts, to the process of improving iron, and converting iron into steel.

H. Carr, East Retford—Construction of railways.

ROTARY STEAM ENGINE.—Mr. J. McKay, of Philadelphia, has just patented an invention, which he thus describes:—"What I claim is, the passages for the exhaust steam, arranged so that they shall cover and encircle the entire periphery of the stationary cylinder, and have their ingress and egress openings so arranged as to cause the exhaust steam, as it escapes, to envelope the whole surface of the cylinder, as described. In combination with the ordinary valves and parts which form a passage for the steam to and from the engine, I claim the supplemental exhaust parts and valves, which set in conjunction with the ordinary exhaust valves, whereby a free egress for the exhaust steam is afforded, without leaving large open passages for the steam to waste in. I also claim the combination of the sliding piston with self-adjusting valves and steam ways, which admit a portion of the steam that propels the piston, behind its inner end, to act as a spring to press it out into the steam space, whichever way the engine may be turning. I also claim mounting or hanging the two cylinders on radial and axial journals, respectively arranged in a common plane, and at right angles to each other, whereby the two cylinders can accommodate the masses to each other, so as to avoid binding, substantially as herein set forth."

MACHINE FOR TUNNELLING THROUGH THE ALPS.—Chevalier Mans has invented an ingenious excavating machine for cutting the channels in the rock, by means of several series of chisels placed one beside the other, in straight lines. These lines of cutting tools are so arranged as to be capable of a slight lateral motion in the direction of the grooves after every stroke; the object of this is to bring the chisels to bear upon all the spaces lying between the several cutting tools situated in the same line, so as to produce not a succession of holes, but a continuous channel, similar to a very wide saw-cut. When the machine is in operation, the several lines of chisels are all drawn back simultaneously, by means of a species of car, or moveable bar, which acts against projections formed on the cutting instruments. The apparatus is arranged so as to enable the chisels to strike 150 blows in a minute. The machine, at the same time, sets in motion a pump, which forces a constant supply of water into a reservoir, the upper part of which is filled with compressed air. By this means the water is driven out in jets, through small pipes placed between the chisels, and is thus made to play upon the grooves, where it performs the double office of preventing the cutting instruments from getting heated, and removing the dust and chips of broken stone, which would otherwise accumulate in the grooves, and thereby prevent the effective working of the excavator. It has met with the approbation of Mr. Robert Stephenson.

NEW PLASTIC MATERIAL.—Five parts of mixed whiting are mixed with a solution of 1 part of glue. When the whiting is worked up into a paste with the glue, a proportionate quantity of Venetian turpentine is added to it, by which the brittleness of the paste is destroyed. In order to prevent its clinging to the hands whilst the Venetian turpentine is being worked into the paste, a small quantity of linseed oil is added from time to time. The mass may also be coloured by kneading in any colour that may be desired. It may be pressed into shapes, and used for the production of *bas-reliefs* and other figures, such as animals, &c. It may also be worked by hand into models, during which operation the hands must be rubbed with linseed oil; the mass must also be kept warm during the process. When it cools and dries, which takes place in a few hours, it becomes as hard as stone, and may then be employed for the multiplication of these forms.—Prof. Purkyné: *Gesammelte aus Wiss.*, 1852, p. 45.

VALUABLE INVESTMENT.—TO BE SOLD, on the 1st July, BY PUBLIC AUCTION, the valuable *PEE-SIMPLE ESTATES* of the late John Beatty West, Esq., M.P., containing nearly 11,000 acres in a ring fence, valued at £5000 per annum; it is situated in the county of Galway, within five miles of Ballinasloe, one of the principal stations of the Midland Great Western Railway.—For particulars, apply to Messrs. Stewart, Pin, Kincaid, and White, No. 18, Adam-street, Adelphi, London, and No. 6, Leinster-street, Dublin.

VALUABLE COLLERY PROPERTY.—A party having £5000 to invest, has a safe opportunity of doing so, either in the PURCHASE of a SHARE in a valuable COLLERY PROPERTY, to pay from 15 to 20 per cent.; or on SECURITY, to pay from 10 to 15 per cent.—For particulars, address "T. C. K.", 5, Hans-place, Chelsea, London.

TO COLLERY SURVEYORS, AGENTS, AND OTHERS.—The OWNER of an extensive COAL-FIELD in the RHONDDA VALLEY, GLAMORGANSHIRE, possessing several important advantages, where a vein of excellent bituminous coal, workable by level, has just been proved, 3 ft. 6 in. in thickness, and carrying a sound rock top, wishes to meet with a person COMPETENT TO MANAGE a COLLERY, in all its departments, and who would be required to invest some portion of capital in the undertaking, as a guarantee for the advantageous and profitable working of the same.—Full particulars may be obtained of Mr. J. T. Williams, civil and mineral engineer, Hendreys, near Cardiff; and the terms on application (by letter) to the proprietor, addressed "E. P.," 1, Langbourn Chambers, Fenchurch-street, London.

TREGORDON MINE, NEAR WADEBRIDGE, CORNWALL.—TO BE DISPOSED OF, for a term of 21 years, at the dunes of 1-16th, the *SETT* of TREGORDON, lately worked, and from which nearly 100 tons of rich silver-lead ore, of the average value of £23 5s. per ton, have within a short period been sold. The party taking the mine will have the opportunity of purchasing, at a valuation, the engine and such other parts of the machinery now on the mine as they may think proper. All applications to be made, on or before the 23rd day of June last, to Wilcock (the proprietor) at Tregordon.—Dated June 14, 1853.

BERLLEPENN SLATE AND SLAB QUARRIES, NEAR MACHYNLLETH, NORTH WALES.—TO BE SOLD, by PRIVATE CONTRACT, these well-known valuable FREEHOLD QUARRIES, which have hitherto been worked by a private gentleman (the proprietor), employing on an average about 150 men. The operations, both in slates and slabs, are steadily progressing, and may be very considerably extended, and an Act of Parliament was passed during the last session for a tramway to facilitate the large and increasing shipments. The sale during the last year amounted to upwards of 90000.

The books, showing the disbursements, net profits, &c., may be inspected by parties in a position to purchase, and the further information obtained from Mr. David Jones, Penrallt-street, Machynlleth; or Messrs. Delmar and Wynne, 46, Lincoln's Inn-fields, London.

TO BE LET, ON LEASE, AND ENTERED UPON IMMEDIATE.—An extensive COAL-FIELD, situate at New Park, two miles from Wakefield, containing about 450 acres of the well-known bed of coal called the HAIGH MOOR BED, and about 260 acres of the GAWTHORPE BED. The colliery possesses a capital facility of access, by means of a private railway with the Lancashire and Yorkshire Railway, and the Aire and Calder Navigation at Wakefield.—For rent and other particulars, apply to Mr. Haywood, Headingley, near Leeds; Mr. Walker, mining engineer, Lake Lock, Wakefield; or at the offices of Messrs. Scholey, Marsden, and Skipworth, Wakefield.

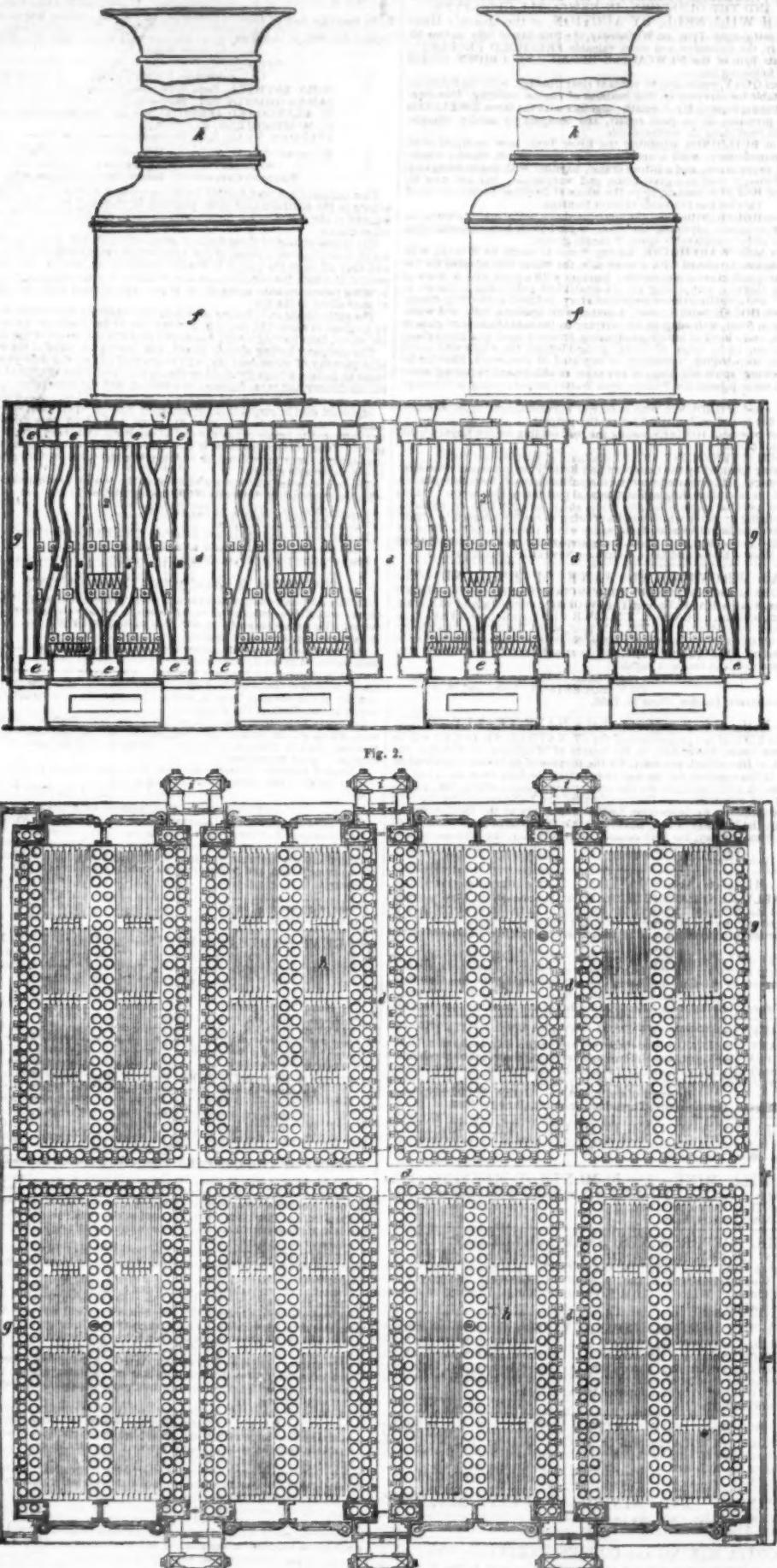
MARINE ENGINES BY AUCTION, WITHOUT RESERVE.—On Friday, the 24th instant, at Belfast, a PAIR of very superior MARINE CONDENSING ENGINES, made in the best and most substantial manner by Scott, Sinclair, and Co., of Greenock; diameter of cylinders 52 in., length of stroke 56 in.; nominal power 100-horse power; boiler, with tube, &c. Apply to the Millbrook Ironworks, Swans.

ENGINEERS, CONTRACTORS, SHIP, and GENERAL BUILDERS can obtain TIMBER of most descriptions, and OAK of any dimensions, to 400 ft. per stem, by addressing (pre-paid) "W. X. Y.", 19, Adam-street, Adelphi.

FOR SALE, in WEST PAR CONSOLS, ST. BLAZEY, CORNWALL, SEVENTY SHARES, of £1 paid up, in that valuable tin and copper mine. The following is the statement of the present managing agent in Cornwall:—"If you find a capital of £2000 or £2000, well spent it will be sufficient to show the property worth £100,000, and very probable double that amount; at any rate, this mine is but an investment, being virgin ground in the best locality in the country, so far as the localities have been explored."—Apply to Mr. Hawden, mine agent, 2, Bank Chambers, London.—June 17, 1853.

MASTER'S OFFICE, SOUTHAMPTON BUILDINGS, Tuesday, June 7, 1853.—In the MATTER of the JOINT-STOCK COMPANIES' WINDING-UP ACTS, 1848 and 1849, and of the ALL-T-Y-CRIB MINE

CRADDOCK'S IMPROVEMENTS IN THE STEAM-ENGINE.



The above drawings show so much of the principle and construction of Mr. Craddock's boiler as can be given in two views, and the demand upon our space does not permit us to give a greater number of views. Fig. 1 shows a sectional elevation, and fig. 2 a plan of a marine boiler, equal to 500-horse power. The length of tube which determines the height of the boiler is but 4 ft. 4 in., but it will be easily conceived that any desired length can be given to the tubes. In this instance the tubes are short, in order to show the adaptability of the boiler for war purposes, and the ease with which a powerful boiler can be kept below the water mark. It is also obvious that one such boiler may be fixed above the other in merchant vessels, if it be desired to double the grate surface without occupying a greater plan area of the ship. In short, this is only one of the several modes of arrangement devised by Mr. Craddock; the boiler can have any external form given to it that is found desirable, and the tubes be set in it more or less thickly, as is made manifest by the various boilers he has constructed and the drawings he has shown us. The same letters refer to the same parts in both figures. Strictly speaking, the figures show eight boilers, clamped together in such a way as to form the flues, d d d; the eight boilers are connected together in the manner shown at i i at the bottom, they are also connected together by a similar means at the top; but at the top the connecting pipes are upon the top of the boiler instead of at the end, and at the top there are two such connections; the boilers are also connected altogether through the steam chests as well as in the way just described; h h h are the grates; a a a are the tubes containing the water; e e e are the top and bottom chambers into which the tubes are inserted, in the same way as in locomotive boilers; by these top and bottom chambers a complete communication is established with the whole series of tubes. It will be seen that these tubes are so arranged as to form three grates in each of the eight boilers, and that the spaces between the tubes in the outer row of each of the eight boilers are filled up on the sides, which communicates with what, to distinguish it, we will call the interior flue, d d d, to within 18 inches of the top of the tubes. Above these stopping up pieces, 2 2, the hot gases pass into the interior flue, d d d, and descending down them impart heat to the other side of the tubes; at the bottom the gases pass from the flues, d d d, into the exterior flue, g g g, and, after imparting heat to the whole exterior surface of the boilers, the smoke and gases from the exterior flue, g g g, collect and envelope the top of the boiler, from whence they pass among and around

the steam chests, which are in the smoke box, f f, and from thence up the chimneys, k k. It will be seen that the stopping up pieces, 2 2, extend to the top of the boiler on the side of the exterior flue, g g. The steam chests are eight in number, of 18 inches diameter, and composed of ½-inch plates; there are four in each smoke-box, but all communicate together, and one pipe, common to all, conveys the steam to the engine. The bend in the pipes is essential to neutralise the straining effect upon the joints, arising from expansion and contraction, but it also serves the additional purpose of apportioning the grate and flue space in the most desirable way, whilst, as will be seen, it allows of all the joints being completely removed from the direct action of the fire.

The exterior casing is composed of sheet-iron with light hollow bricks, attached to either the interior or exterior of the sheet-iron; this effectively prevents the outside surface from attaining the heat of boiling water, but if any object to this mode, because they think such an external casing will become hotter than boiling water, then nothing is more easy than to have a casing of water, the top of which should be left open to the atmosphere, so that no pressure could by possibility exist in such casing from the generation of steam in it. All the practical points relating to both modes of casing have been well considered, and every possible difficulty obviated. But 10 years' experience with boilers on this principle indicate that the best casing is that of light hollow bricks, attached to sheet-iron, as whilst it will effectively prevent any undue heat extending to the exterior, it does not rob the hot gases of too much of their heat, which heat it is desirable to impart to the boiler in which the steam is generated, and to the steam-chests, and not to a water casing. To form a correct opinion of the heat that will come in contact with the exterior casing, it is necessary to recollect in the first place that these boilers require but a slow rate of combustion; and, secondly, that there is nearly three times the quantity of surface, as in the present marine boilers, to absorb a given quantity of heat.

It is by persons assuming the same intense degree of combustion in these boilers as in those in general use, that they mislead themselves and others upon many practical points connected with Craddock's boiler. So far as it goes, the Cornish principle is the right one; this few practical men will venture to dispute; but even the Cornish plan allows of a greater heat being generated in the furnaces with the same draft than these boiler do, and for the simple reason that the Cornish have a greater body of com-

busible matter without so complete an admixture of the absorbing surface but with the absorbing surface so completely mingled, as it is in this boiler, with the product of combustion, and that, too, when the very act of combustion is taking place from which the hot products are derived, it must be seen how quickly such hot products are reduced in temperature. It is necessary to attend to this point, because persons who have not had experience with such boilers are apt to form exaggerated notions of the heat which is imparted to the outside casing.

In marine steam boilers and engines there are five points of the greatest importance to attend to:—1. Safety from explosion.—2. Economy in the use of fuel for the production of a given power for a given time.—3. The obtaining a large heat-absorbing surface in the boiler, so that the quantity of steam required can be obtained with a slow rate of combustion.—4. The boiler and engine should be as small in bulk and weight as is consistent with the production, in a durable and efficient manner, of the power required.—5. The diminution of the unprofitable freight in the shape of machinery and coals, and the increase of the paying freight.

But in consequence of the very vague notions current upon steam-boiler explosions, it is necessary to state that the surface has as much to do with the bursting of steam-boilers as the pressure; it is, in fact, the surface multiplied into the pressure, which gives the true amount of strain upon all or every part of the boiler. It is also true that the danger to be apprehended from the bursting of any steam-boiler is greater or less in proportion to the quantity of water and heat which the boiler contains, and to the instantaneous and diffuse liberation given to the heat and water when the boiler bursts. If a little attention was paid to these three conditions hundreds of human lives, and property worth thousands of pounds, would be saved from destruction.

To enable the reader to form an opinion of how far Craddock's boilers are calculated to advance steam navigation in all the before-named particulars, and especially to diminish the destruction of life and property from boiler explosions, we must for the present confine ourselves to the following brief contrast of Craddock's boiler with the common marine boiler:

The strain upon Craddock's boiler, with 100 lbs. pressure on the inch, is not 1-10th of that which the marine boiler has to sustain at 20 lbs. pressure on the square inch. The quantity of water in a common marine boiler of 500-horse power is about 48 tons; whilst in the one here shown it is but 8 tons. If the pressure in the common marine boiler ever exceeds the working pressure by only 10 lbs., and the boiler then explodes, it will be found that the sensible heat above 212° (which at the pressure named is contained in such a mass as 48 tons of water) will be equal to the instantaneous conversion of as much water into steam, at the atmospheric pressure, as would be upwards of 20,000 cubic feet. But with Craddock's boiler working at 100 lbs., the sensible heat contained in 8 tons of water, would generate but one-fourth the quantity of steam of an atmospheric pressure: so that the matter stands thus in relation to explosion:—The common boiler, working at 20 lbs. pressure, has at least ten times the strain upon it as Craddock's at 100 lbs. pressure. The common boiler has in it 48 tons of water, and at least 20,000 cubic feet of steam, whilst Craddock's boiler has but 8 tons of water, and 5000 cubic feet of steam, when expanded to the atmospheric pressure. As to the point of the diffuse and rapid liberation of the steam and water, it is obvious Craddock's boiler is incomparable the most safe. The common boiler for 500-horse power is 23 feet by 24 feet, and without steam-chest 12 feet high, or occupies a space equal to 6624 cubic feet; Craddock's boiler for the same power is 15 feet by 16 feet, and 7 feet high, or occupies a space equal to 1575 cubic feet. The weight of the common boiler without water is 78 tons, with water 126 tons; Craddock's without water is 26 tons, with water 35 tons.

In this boiler of Craddock's there is the same amount of heating surface as in the common boiler; whilst, with the steam generated under 100 lbs. pressure in Craddock's boiler, and used expansively, not more than one-third the quantity of steam is requisite to produce the 500-horse power, as when used as it is from the common boiler; from thence it follows, that the heat-absorbing surface is threefold greater in Craddock's boiler than in the common one; for the same evaporation, and with two-thirds saving in steam, there is but one-third the quantity of coal required for a given power, and in a given time. By such diminution of bulk and weight of boiler, and reduced consumption of coal, it is obvious how large must be the gains by so large a conversion of unprofitable into profitable freight, not to speak of the saving in the cost of coal.

NEW SOUTH WALES.—By the arrival of the *Anglo-Saxon* and the *Waterloo*, advice has been received from Sydney, New South Wales, to the 5th of March inclusive. The former vessel brings gold to the extent of 24,235 ozs., and the latter only 4902 ozs., together making 33,257 ozs., value about £33,145. The *Cornetic* had called previously with 19,668 ozs., value £7,672.; the *Benjamin Ekin* with 408 ozs., value £172.; and the *Hannibal* with 2332 ozs., value £7,328.; making the total export of gold to the latest date, 1,187,644 ozs., value about 4,751,076. Trade was active at the above date, and prices of all kinds of goods were very high; and it is said that, in consequence of the inadequate supply of labour, vessels take from four to six weeks in unloading, however large might be the importations, there would be no immediate effect produced on the tone of the market. In consequence of an anticipated dearth in the labour market there had been an importation, by private order, of several threshing machines, and it was probable that the adoption of mechanical aid would become general in all kinds of husbandry. It may probably be remembered that the first introduction of such machinery into the colony was mentioned about two years back, and that the importers failed to effect a sale at any price. Owing to the rate of exchange having gone up to 1 per cent. prem., gold had increased in price to 31. 18 per oz. for Victoria, and 31. 10s. for New South Wales gold, but subsequently slightly receded, and at the latest dates was respectively quoted at 31. 17s. and 31. 16s. gold per oz. The following table, showing the current market value of public securities, is of considerable interest, as affording evidence of the estimation held in the colony of the various joint-stock projects brought out:

	Paid per share.	Current prices.
Australia	£10 0 0	None offered.
Union	25 0 0	£73 to £90 prem.
New South Wales	20 0 0	£32 0 0
Commercial	25 0 0	50 0 0
Australian Joint-Stock	2 0 0	3 2 0
MISCELLANEOUS.		
Gas Light Company	£6 0 0	48 8 0
Steam Navigation Company	20 0 0	£30 to £35 per cent. p.m.
General Assurance	5 0 0	£5 10 0
S. S. Wales Assurance	2 0 0	2 2 0
Railway Company	3 5 0	Par.
Sydney Gold Escort Company	1 0 0	1 5 0
Sydney Exchange	2 10 0	2 10 0
Bathurst Copper Mine Company	5 0 0	8 0 0
GOLD MINING.		
Wentworth	£10 0 0	Par.
Great Nugget Vein	10s. and 22	Par to 10s. prem.
Australian Mutual	£1 0 0	£2 0 0
Australasia	2 0 0	1 0 0
Turon Gold Ridge	1 0 0	1 0 0

VICTORIA.—The accounts from Melbourne mention that the Lieutenant-Governor had given his assent to the Act regulating the management of the gold-fields. The yield of the precious metals continued abundant, and various enormous lumps of solid gold had been met with. One of the local journals says:—"The great event of finding the monster nugget in Canadian Gully, Balarat (weight, 135 lbs. 11 oz.) has been eclipsed by another brilliant discovery, viz., the finding of two enormous masses of gold in quartz, weighing upwards of 176 lbs. troy. These magnificent specimens of our mineral wealth weighed as follows:—Large mass, 93 lbs. 2 oz. 5 dwt.; smaller mass, 83 lbs. 9 oz. 5 dwt.; total 176 lbs. 11 oz. 10 dwt." With regard to the general produce of mines, the *Melbourne Argus* observes:—"The produce for the present year shows that there is no reason to apprehend a sudden failure in the yield of gold; but even if the amount were less than it is, there are still abundant evidences of the inexhaustible character of our mines." Of these, the most remarkable is the fact that within the last few days three unparalleled masses of gold have been brought to light—such as perhaps the world has never seen before. They were found in a spot never much frequented hitherto, and there are reported numerous small lumps having been found in the same locality. The largest of these three great lumps weighs 134½ lbs., of which upwards of 120 lbs. are pure gold. The other two lumps weigh 83 lbs. 2 oz. 5 dwt., and 83 lbs. 9 oz. 5 dwt., respectively, only a very small proportion being quartz. They are superb specimens of gold and quartz inter-blended. The largest weighs many pounds more than the famous 'Kerr hundred-weight' of New South Wales, and has the additional advantage of being in one solid lump. The locality where these splendid masses had been found is called the Canadian Gully, and is a branch of the Balarat diggings. These diggings were the first opened up in Victoria, and attracted a large number of people; but they were almost wholly deserted when the superior richness of the Mount Alexander diggings was discovered. The difference between the two localities seems to be that at Mount Alexander the gold is finer and more equally diffused; while at Balarat it is in larger lumps, and occurs less frequently. A similar difference has been observed between the Ophir and Turon diggings, in New South Wales. The differences would seem to indicate the existence of an original matrix or fountain head of the gold deposits, to which Balarat probably lies nearer than Mount Alexander." The price of gold had advanced to and kept steady at 76s. 1d. per oz., and the usual produce of the colony was selling at high rates, whilst the exchange on England had advanced. The increase in the price of gold is to be ascribed to the abundance of specie, arising from the heavy shipments received from England, the increased competition in trade, and the raising of the rate of exchange by the banks, the combined operation of which circumstances almost annihilates the profit derivable from exporting gold to this country.

The Submarine Telegraph to Belgium is to be opened to the public on Monday, from which date messages will be transmitted instantaneously to Brussels, and thence to all parts of northern Europe. The Submarine and European Telegraph Company at the same time give notice of a reduction in their rates.

NOTICE.—TO MERCHANTS, MINERS, and all OTHERS interested in the PRODUCTION of GOLD OR SILVER, either in Australia, California, North and South America, Great Britain, or any other part of the world.—I beg to announce, that I am at all times a PURCHASER of GOLD, in gold, quartz, or other matrix, which contains 5 per cent. of gold or upwards; and of SILVER, no matter in what matrix, which yields 15 per cent. of silver or upwards.

My operation is exclusive, as my process avoids altogether the expense of crushing and other preparation, and, consequently, it is of vast importance to all mining undertakings, but more particularly to those who have to pay exorbitantly for labour.

BENJAMIN MASSEY, 116, Leadenhall-street, London.

COBALT AND NICKEL.—ALFRED SENIOR MERRY, REFINER AND PURCHASER OF COBALT AND NICKEL ORES, AND ASSAYER IN GENERAL.—Address, LEE CRESCENT, BIRMINGHAM.

NICKEL AND COBALT REFINING, AND GERMAN SILVER WORKS, MILL STREET, BRAD-STREET, BIRMINGHAM.—STEPHEN BALKER begs to inform the Trade, that he has the following article for sale: REFINED METALLIC NICKEL, OXIDE OF COBALT, WIRE, &c., REFINED METALLIC BISMUTH, GERMAN SILVER—IN INGOTS, SHEET, NICKEL AND COBALT ORES PURCHASED.

L. O. S. H. WILSON, AND BELL, NEWCASTLE-ON-TYNE, MANUFACTURERS OF BAR-IRON, RAILWAY BARS, FORGE and ENGINE WORK, CAST-IRON GOODS, and STEWART'S PATENT CASE-IRON GAS and WATER PIPES.—OFFICE, 7, MIKE LANE, LONDON.

MESSRS. DISTIN AND CHAFE, ENGINEERS, DEVONPORT, MANUFACTURERS OF PUMPING, DRAWING, STAMPING, and other CONDENSING STEAM-ENGINES, CHILIAN MILLS, STAMPING, CRUSHING, and every other description of MACHINERY. Gold companies supplied with machinery and mining tools to any extent; and competent engineers engaged to erect and work machinery in Australia and California.

MINING OFFICES, No. 1, THREE KING COURT, LOMBARD STREET.—Mr. JOHN BEALL wishes to inform his friends and the public generally that he has SUCCEEDED to the above OFFICES, lately occupied by Mr. James Truscott, where he purposes conducting the business of several valuable mines. Good information derived from a lengthened experience is always at his command.

MINING OFFICES, 7, GEORGE YARD, LOMBARD STREET, LONDON.—WILLIAM HUNSLY FOX OFFERS HIS SERVICES to parties interested in MINES, HOME or FOREIGN. The present depressed state of the English market (arising from extraneous circumstances) presents an unprecedented opportunity for profitable investment. In the limit of an advertisement it is impossible to give an accurate list of the most promising mines, but the following may be enumerated:—Wheat Gold (3%), Wheal Russell (4%), East Wh. Russell (5%), Hewas United (5%), Beacon Tin and Clay (15%), Port Philip (15%), Worthings (10%), and North British Australian (5% prem.), per share. Every information given, and lists of prices furnished on application.

WORTHY THE ATTENTION OF MINING ADVENTURERS.—FOR SALE, SHARES in the following MINES:—Bottallack, Bosocan, Chiverton, Borlengton Consols, Treleigh Consols, Devon Burr Burra, Devon Kupunda, Peru, Pendon, Treworva, Tryphena, Wheal Harriet, Bodmin United, Perran United, Trelleyn, Par Consols, Leeds Town, St. Aspin and Grylls, West United Hills, Clive United, West Alfred Consols, Poltimore, Kewstow, Cubert, North Wh. Unity, Carvannall, Carpenter (South Sydenham), Great Wh. Baddean, Nantose and Penrice, East Herland, Wheal Messenger, and West Wheal Jane, with several others.—Application, or letters, to be addressed to John Beall, No. 1, Three King-court, Lombard-street, London.

J. Beall has at his command several valuable SETTS in CORNWALL and DEVON.

M. R. LELEAN, No. 76, KING WILLIAM STREET, CITY, TRANSACTS BUSINESS in HOME and FOREIGN MINES, INSURANCE, BANKING, RAILWAY, and other SHARES. Every information derivable from a lengthened experience is offered.

MESSRS. HENWOOD AND CO., MINE AGENTS AND SURVEYS, LEEDS, OFFER THEIR SERVICES to parties embarking in MINING, and are prepared to give advice on all the leading speculations of the day. Mr. HENWOOD IS NOW IN CORNWALL; any communications sent to him will be forwarded to him. Reports furnished on the usual terms.

M. R. TYACK, CAMBORNE, CORNWALL, MINE BROKER, BUYER in Dolsooth, North Hoscar, West Seton, Wheal Seton, Condurrow, West Treasury, West Frances, Wheal Tryphena, Wheal Jane, and other mines of prospective character. Mines inspected by the most experienced agents.

JOHN LITTLE, MINING SHARE DEALER AND COMMISSION AGENT, REDRUTH, CORNWALL.—Mines inspected and reports furnished by experienced Agents.

JAMES HOLLOW, MINE SHAREBROKER, MINE AND COMMISSION AGENT, &c., UNY LELANT, HAILE, CORNWALL.—Being resident in the mining district, J. Hollow is, from his local knowledge of the mines, in a good position to advise capitalists and others as to safe investments.

NORTH AND SOUTH WALES QUARRY AND MINE AGENCY OFFICE, for the SALE and PURCHASE of PROPERTY of this description. Manager, Mr. WILLIAM FARRY, Eldon Cottage, Carnarvon. Parties having the above property for sale, or others desiring of purchasing such, are requested to apply to the manager, as above. Quarry and mine property surveyed, valued, and reported.

M. R. RICHARD HAWKE, MINE SHARE BROKER, LISKEARD, CORNWALL.

M. R. GEORGE EDWARD FENTON, MINING SHARE BROKER, No. 5, ADAM'S COURT, OLD BROAD STREET, LONDON.

M. R. J. N. EDWARDS, MINING AGENT, 3, MAGS HEAD COURT, GRACECHURCH STREET.

M. R. E. GOMPERS, MINING SHARE DEALER, 11, SCARBOROUGH STREET, GOODMAN'S FIELDS, LONDON.

CROKER BROTHERS, STOCK AND SHAREBROKERS, PLYMOUTH.

MINING INVESTMENT.—T. FULLER AND CO., 51, THREADNEEDLE-STREET, LONDON, beg to call attention to the very favourable opportunity of PURCHASING in safe DIVIDEND-PAYING MINES, which will pay from 15 to 25 per cent. upon present purchase; also in others approaching that rate, and upon which a great rise is anticipated, particulars of which may be obtained, either personally or by letter. T. Fuller and Co. being in daily communication with agents of high and scientific, and practical experience, have the means of obtaining the most correct information of the principal MINES in Devon, Cornwall, and Wales; and have specially FOR SALE the following SHARES:

Alfred Consols
Bedford United
East Wheal Rose
South Caradon
Spears Consols
Treviley and Barrie
Trumpet Consols
PROGRESSIVE MINES.
Devon United
East Wheal Russell
Great Wheal Alfred
Hington Down Consols
N. Britain Burr Burra
North Wheal Trelawny
GOLD MINES.
Colonial Gold
Golden Mountain
Lake Bathurst
Nouveau Monde
N. British Australasian
Port Phillip

T. Fuller and Co. have several PLOTS OF FREEHOLD LAND FOR SALE, situated at Bathurst and Melbourne, suitable either for the extraction of the precious metals, and well adapted for the operations of a Company, or for agricultural or other purposes.

The Weekly List of Prices, and Circular of Mining Information, to be had upon application, of Messrs. Tredinnick.

M. R. TREDINNICK AND CO., AUCTIONEERS, STOCK and SHAREBROKERS, and DEALERS in MINING and OTHER PROPERTY, 6, HAYMARKET, and 12, ST. MICHAEL'S-ALLEY, CORNHILL, LONDON; and Mr. JOSEPH TREDINNICK, Stock and Sharebroker, Mine Inspector and Mechanist, HAYLE, CORNWALL.—Mines pay from 12½ to 15 per cent. per annum; and Messrs. TREDINNICK and CO. are at all times in a position to BUY and SELL in all DIVIDEND and promising MINES.

The Weekly List of Prices, and Circular of Mining Information, to be had upon application, of Messrs. Tredinnick.

MINES AND RAILWAYS IN AMERICA.—Mr. J. A. CALLENDELL, CIVIL ENGINEER, intends to START for the UNITED STATES, per steamer of 35th Inst., to INSPECT and REPORT on the mining districts of Lake Superior, and probably also those of California. He is ready to UNDERTAKE the SURVEY or INSPECTION of MINES or MINERAL PROPERTIES, and to look out and treat for the purchase of such property in any part of the States, — report on the progress and prospects of minor railways now being worked, — or to transact any other business connected with his profession, on behalf of companies or individuals. — Address by letter to 14, Howland-street, Fitzroy-square, London, 7th June, 1853.

SAFE AND PROFITABLE INVESTMENTS.—The present low market value of mining shares affords to PURCHASERS a rare and excellent OPPORTUNITY, in consequence of the depression, caused chiefly by political causes, which is likely to be of very short duration. The best MINES are paying increased bi-monthly dividends; and those fast approaching to that state, being worked legitimately, in the most approved mining districts, are on SALE, and NONE but the foregoing will be recommended, on application, by Robert Tripp, mining agent, Michael's Chambers, St. Michael's-alleys, 42, Cornhill, London.

NO MINING AND OTHER COMPANIES.—Messrs. CHAMBERS and SONS, 65, COLEMAN STREET, BANK, beg to inform directors and secretaries of companies that they are prepared to execute orders for PROSPECTUSES, LETTERS OF ALLOTMENT, SCRIP, and every description of PRINTING, STATIONERY, &c., at the shortest possible notice, and at exceedingly moderate terms. Designs and estimates furnished free of expense.

IMPORTANT AND VALUABLE FREEHOLD PROPERTY ADJOINING THE RIVER TYNE AND THE OUSEBURN, IN NEWCASTLE-UPON-TYNE.

M. R. BROUGH WILL SELL, BY AUCTION, at the Queen's Head Hotel, Newcastle-upon-Tyne, on Wednesday, the 20th day of July, at One for Two o'clock precisely, the extensive and most valuable FREEHOLD PROPERTY, belonging to the late firm of the NEWCASTLE BROAD AND CROWN GLASS COMPANY, in the following lots:

Lot 1.—A spacious QUAY, possessing 90 yards of river frontage, with the buildings upon the same, suitable for carrying on the business of engine building, foundry, &c., and at present under lease to Mr. J. Smith; together with the three DWELLING HOUSES upon the premises, all in good repair, and occupied by sundry tenants. This lot has a public road along its northern side.

Lot 2.—A block of BUILDINGS adjoining the River Tyne, now occupied as an artificial manure manufactory, with a spacious quay, upon which stand a steam-engine, a powerful swing crane, and a lifting crane; together with the buildings adjoining the same, formerly used as a glass-house and warehouses, but not now tenanted; and several HOUSES, containing in the whole 48 dwelling-rooms, occupied by sundry tenants. This lot has 115 yards of river frontage.

Lot 3.—A GLASS-HOUSE (with cone), formerly used as a bottle manufactory, together with two warehouses adjoining the river, a good quay, houses, comprising 10 dwelling-rooms, and a considerable space of vacant ground.

Lot 4.—A neatly-built WARHOUSE, having floors 43 yards by 8 yards, with a counting-house, furnished with a stone safe, the whole well adapted for the business of importers and general merchants; together with a quay and a block of buildings standing thereon, comprising an old-established public-house, known as the "Stone Cellar," and a small earthenware manufactory, and several dwelling-rooms.

Lot 5.—A GLASS-HOUSE (with cone), together with spacious lofts and warehouses on the quay in front, well adapted for carrying on the manufacture of glass in any of its branches, and a block of buildings adjoining, formerly used as a broad glass-house, with warehouses and a space of vacant ground behind, the whole well suited for the business of soap-boiling, foundry, or any kind of iron-work, likewise for sugar-refining, brewing, spirit distilling, or any other establishment requiring water of great purity, the main-pipes of the Whittle Dean Water Company being laid through the premises.

Lot 6.—A large space of GROUND, with extensive warehouses and three tenement houses, adjoining Lot 5, and well adapted for similar purposes.

Lot 7.—A row of tenement HOUSES, facing the road leading by the Ropery to St. Peters, with ground behind.

Lot 8.—A BLOCK of TENEMENT HOUSES, situate at East Ballast Hills.

The property being bounded by the Ouseburn and River Tyne, possesses a most extensive water frontage. It is situated near to the public quay of Newcastle, and in the very centre of the manufacturing and commercial portions of that town. It thus enjoys a position of peculiar importance and value, and it is rarely that an opportunity occurs of acquiring property which admits of being so readily adapted to almost any of the extensive and lucrative manufactures for which the banks of the Tyne are now distinguished.—Particulars, with plans, are in preparation, and will be forwarded on application to Messrs. Stable and Dees, solicitors, Newcastle-upon-Tyne.

By order of the Court of Directors,
DAN. ROBERTSON, Agent and Manager.

112, Bishopsgate-street, London, June 14, 1853.

NATIONAL PROVINCIAL BANK OF ENGLAND.—The DIRECTORS of the NATIONAL PROVINCIAL BANK OF ENGLAND hereby give notice, that a HALF-YEARLY DIVIDEND, at the rate of SIX PER CENT. per annum, and also a BONUS of TWO PER CENT., will be PAYABLE on the company's Stock on and after the 16th July next, when the dividend and bonus warrants will be obtainable at the company's office, No. 112, Bishopsgate-street, or at the different branches. The transfer-books will be closed on and after Friday, the 24th inst., until the dividend becomes payable.

By order of the Court of Directors,
DAN. ROBERTSON, Agent and Manager.

112, Bishopsgate-street, London, June 14, 1853.

NOTICE.—Notice is hereby given, that a HALF-YEARLY GENERAL MEETING of the proprietors of the ST. KATHARINE DOCKS will be HELD in the Dock-house, Tower-hill, in the county of Middlesex, on Tuesday, the 19th of July next, at One o'clock precisely, for the purpose of declaring a dividend on the capital stock of the company for the half-year ending the 30th June inst., and for the election, by ballot, of 21 directors for the year ensuing; and further, that the accounts of receipt and expenditure of the company for the half-year ending the 30th June last, will be accessible for inspection by the proprietors at the Dock-house on and after Monday, the 11th day of July next; and that the books of the company will be closed on and from Monday, the 20th instant, until Saturday, the 30th day of July next.

By order of the Court, T. W. COLLET, Assistant Secy.

Office of the General Mining Association, 52, Old Broad-street, London, June 14, 1853.

GENERAL MINING ASSOCIATION.—Notice is hereby given, that the YEARLY GENERAL MEETING of the Proprietors in this company will be HELD at this office, on Thursday the 30th day of June, 1853, at 1 o'clock in the afternoon precisely, for the purpose of receiving and considering a report of the directors, of announcing a dividend, and of transacting the ordinary business of the Association.

At this meeting Felix Ladbrooke, Esq., Robert Moser, Esq., and George Scovell, Esq., three of the present directors, and William Digby Seymour, Esq., one of the auditors, will vacate their seats by rotation, and being immediately re-elected, are candidates for re-election.

By order of the Board of Directors, J. B. FOORD, Sec.

Office of the General Mining Association, 52, Old Broad-street, London, June 14, 1853.

LACKAMORE COPPER MINING COMPANY, COUNTY OF TIPPERARY, IRELAND.—The directors having this day declared a DIVIDEND of FIVE PER CENT. (or One Shilling upon every £1 share), the shareholders are hereby informed that the same will be PAID at the office of the company, on any day after the next monthly meeting of the 11th July, upon presentation of the Scrip Certificates.

By order of the Board, JOHN MADDEN, Secy.

Company's Office, 3, Hatton-court, Threadneedle-street, June 11, 1853.

BRITANNIA GOLD MINING COMPANY.—WANTED, a FEW SHARES in the above company.—Apply, stating the lowest price, to "A. B." Box B. 172, Post-office, Manchester.

BOTTLE HILL MINE.—The BI-MONTHLY MEETING of the adventurers in BOTTLE HILL MINE will be HELD at this office on Monday, the 20th inst., at Three o'clock precisely.

G. REEVES, Purser.

14, Swithin's-lane, June 14, 1853.

RUNDELL COPPER MINES, NEAR ASHBURTON, DEVON.—OFFICES.—26, NEW BRIDGE STREET, BLACKFRIARS, LONDON.

A NOTICE OF THE ORIGIN, POSITION, and PROSPECTS of this MINING PROPERTY, by J. WHITTON ARNDL, Esq., is JUST PUBLISHED, and may be obtained at Mr. Effingham Wilson's, Royal Exchange-buildings, London, or through any bookseller.

FOX TOR TIN MINING COMPANY.—Shareholders are hereby informed that the CERTIFICATES OF SHARES "TO HOLDER" are NOW READY to be EXCHANGED for BANKERS' RECEIPTS, at the company's office, between the hours of Twelve and Three; they are also informed that the water-wheel, which was ordered to be erected on the 15th ult., at the mines, is in course of construction, and is expected to be completed in two months.

JOHN HUNTER, Secy.

Offices, 30, Bucklersbury.

GREAT WHEAL VOR UNITED MINES.—Notice is hereby given, that CERTIFICATES will be EXCHANGED for BANKERS' RECEIPTS, on presentation of same at the office of the company, No. 17, Gracechurch-street, on and after the 20th inst.

By order of the Committee, HENRY and EDWARD CREAMER.

Dated June 8, 1853.

IAS INFANTAS LEAD MINING COMPANY, LINARES.—FOURTEEN MINERS, under charge of the manager and mining captain, are to be employed in the works at Linares, on SOUTHPHANTON YESTERDAY (Friday) by the Tagus for Cadiz, en route to Linares.

NOVA SCOTIA MINING and COPPER SMELTING COMPANY.— Notice is hereby given, that the shareholders who have given, or shall give, their ASSENT to the WINDING-UP of the above COMPANY, on or before the 21st inst., give their ASSENT to the WINDING-UP of the above COMPANY, on the terms sanctioned by the General Meeting, held on the 31st May last, may RECEIVE the FULL AMOUNT of their respective DEPOSITS at the offices of Messrs. Sewell, Fox, and Sewell, 51, Old Broad-street, on Tuesday, the 21st inst., between the hours of Twelve and Two, and on every succeeding Tuesday, between the same hours, until further notice, on delivering up their scrip, and signing the deed of release and indemnity.

N. B. Those shareholders who may not give their assent as above, are recommended that the directors are not pledged to the return of their deposits in full.

AQUAFRIA GOLD MINING COMPANY.—Notice is hereby given, that an EXTRAORDINARY GENERAL MEETING of the shareholders of the above company will be HELD at the London Tavern, Bishopsgate-street, on Thursday, the 30th inst., at One o'clock precisely, for the purpose of confirming the recent arrangements entered into for working the claims of the Gold Hill and other companies in Grass Valley. Two additional directors will be elected, in accordance with the resolution passed at the last general meeting.

Scripholders who have not already registered are reminded that, to entitle them to vote at the meeting, it is necessary their scrip should be exchanged for share certificates.

It is requested that scrip may be sent in for that purpose to the secretary at least one week previously to the said 30th June.

By order,

WILLIAM J. VIAN, Secretary.

Office, 2, Old Broad-street, June 9, 1853.

PORT PHILIP COMPANY, AND ST. JOHN DEL REY COMPANY.—In the latter company, a friend bought largely some years since, and immediately antedated to it, the result was, the price of the share fell, and remained sold, and the unknown author of the lie received his unceasing annoyances ever since. The Port Philip Company's shares, conducted by the same promoters, have recently been depreciated some 300 per cent. by the same course, and from the tenor of the private letter I inclose to you, with the same object. This letter signifies that private advices have been received of the most satisfactory nature; the company was fast advancing towards a paying condition; and, in addition, Evan Hopkins had firmly secured some rich gold placers for the company. Under these circumstances, it is felt that the out-shareholders should be kept in ignorance?

John Anderson, Secy. (pro tem.)

10, Newgate-street, June 17, 1853.

LONDON AND VIRGINIA GOLD AND COPPER MINING COMPANY.—SCRIP will be given in EXCHANGE for the BANKERS' RECEIPTS, at the office of the company, 34, Lime-street, on and after Wednesday, the 22d inst. The directors have engaged the services of Capt. John Hitchins, to report upon the mines. He has proceeded to Virginia, and his report may be expected in about a month.

By order of the Board,

THE MINING JOURNAL.

THE CASTLE SLATE QUARRY, NEAR FESTINIOG,
CARMARSHIRE.

In 10,000 shares of £1 each, fully paid up.—No further calls.
To be worked upon the "COST-BOOK SYSTEM," by which the liability of shareholders
is limited to the amount subscribed.—Dues 1s. per ton.

MANAGING COMMITTEE.
WHITAKER BUSH, Esq., Fairwood, Westbury, Wilts.
Capt. T. G. FORBES, R.N., Stoke-by-Nayland, near Colchester.
T. BURTON CROSSE, Esq., William-street, Lowndes-square.
JOSEPH J. W. WATSON, Esq., Ph.D., F.G.S., Albion Chambers, Adam-street.
WILLIAM FROST, Esq., Albion Chambers, Adam-street, Strand.
BANKERS—Messrs. Barclay, Bevan, Tritton, and Co.
SECRETARY—G. Hadley, Esq.

Experience has shown that there is no channel which offers a more certain and lucrative field for investment of capital than slate property, the demand for manufactured slates being much greater than the quantity which the existing quarries can produce.

Before offering the Castle Slate Quarry to the public as an investment, the proprietors incurred the risk of testing it to a third floor, where the rock has not only been found of excellent quality and colour, but splits easily and smoothly, and is also free from sulphur.

In the opening and proving this quarry, in the erection of a 30-ft. diameter water-wheel, inclined planes, reservoirs, leats, railways, and necessary buildings, all of which are in thorough repair, upwards of £4000 have been expended.

The falls for waste are lofty, and there is an abundance of ground for their extension with the progress of the works.

It is calculated that in the first six months 30 men (at a cost of £1000) will open by measurement 21,000 cubic yards of slate rock, which should produce (after allowing for waste) 14,000 tons of roofing slates, and realize a clear profit of £20,000, at least. 30 extra men may then be engaged to make slates, and these increased by 25 every six months. As each man should manufacture slates to yield a profit of 1s. per week, the returns are easily calculated.

It is proposed, in consequence of the arrangement made with the proprietor, to raise a capital of £10,000, which sum is ample for purchasing the quarry and extending its workings.

The proprietor has agreed to sell the quarry under what it has actually cost him, —viz. £4000, on condition that after the shareholders receive 15 per cent. per annum upon the paid-up capital, clear of all expenses, any further profit be divided between him and the shareholders.

Specimens of the slates may be seen at the offices of the company, and on the roof of St. Mark's Church, Regent's Park, which is covered with slates from this quarry.

Application for shares to be addressed to the secretary, No. 8, Old Jewry, and F. T. Haggard, Esq., No. 2, Angel-court, Throgmorton-street.

Report of JOSEPH J. W. WATSON, Esq., Ph.D., M.E., F.G.S.

The Castle Slate Quarry situate about four miles from Festiniog, in the county of Carnarvon, and contains three descriptions of slate, of which two kinds are of the blue and one of the grey variety. The following remarks upon the general condition of the quarry apply to the dark blue and grey slate only, since the light blue has been but slightly worked upon.

The length of the opening in the quarry at present is 122 ft., its breadth 103 ft., and its depth 42 ft., from which a mass equal to 21,149 cubic yards of the finest quality rock have been removed and manufactured into slates. The set comprehends a species of unworked rock, with a thickness of the depth above mentioned, of about 600 yards long by 300 yards broad. The slate veins run in a direction from east to west in a highly schistose rock of the older Silurian age. The cleavage planes make an angle of about 80° to the horizon for the dark blue slate, and about 75° for the light blue and grey slate.

The vein throughout is remarkably free from pyrites and iron-leads or spar. The face has been laid open by workings, three in number, fronting the east and rising in terraces towards the west, all of which are entered from the north end of the bed; the first floor is 18 yards deep, the second 8, and the third 7 yards; from the third floor a fourth is in process of being laid open by sinking to a depth of 15 yards. The ground in the quarry rises rapidly on the north and west, thereby increasing the depth of face as the workings continue to extend west, by which the quality of the slate constantly improves, and the number of floors, and consequently the profits, are continually being added to. The present workings are, as it were, in the neck of the vein, which widens rapidly as it enters the rising ground. The best means of prosecuting the work for the future will be by driving a loose end from the sink in the third floor towards the south, and also a loose end into the light blue slate rock on the north northwards, and afterwards at right angles towards the east, opposite to the present quarry face. By these means it will be possible to expose and obtain a large quantity of valuable slate of the dark blue and grey descriptions, and likewise of the light blue description, which, as before mentioned, has hitherto been scarcely worked. By these works, within the first six months, about 21,000 cubic feet may be laid open, and which will produce, at the lowest estimate, 14,000 tons of best quality roofing slates. After the first sixteen months, which will be confined principally to getting and removing the slate rock, 5 men may be employed in making slates, increasing their number by 25 for every succeeding six months. Each man should, at least, yield a profit on his work of 1s. per week. Of every cubic yard of the raw slate, at least from 800 to 900 square-foot slates, it is my opinion, may be manufactured. Of the three varieties the grey slate, according to the present state, is the most valuable, although both the dark and the light blue are of the best quality of the material. The plates generally are light, even grained, exceedingly durable, and of great strength, and laminate with the utmost possible facility; in proof of which I may mention that a slab of 1 inch in thickness, by cleavage, will furnish 16 separate folia, or, in other words, may be split into pieces of only 1/16th of an inch in thickness.

In addition to what has been stated of the value of the material in the Castle Quarry, the facilities for working the quarry are very great, inasmuch as there is an unlimited water-power, derivable both from a small reservoir, which is constantly filled, and from a lake at some distance to the north. The machinery is in excellent order, and of the most effective kind for the purposes of the quarry; a fact which may also be asserted for the whole of the working plant.

The falls for waste are most advantageously situated, with a capability of extension over 20 acres, with an average fall of about 17 yards. There are good approaches to the quarry from the turnpike-road to Festiniog. The offices, consisting of smithy, carpenter's shop, counting house, stabling, &c., are commodious and in good repair.

In conclusion, the general opinion I have of the Castle Quarry is of a most favourable nature, and I have no hesitation in stating, that I consider it to be a property of the utmost improvable value, both from abundance of material and the nature of its position, and that it cannot possibly be otherwise than a source of very large profits, should it be spiritedly and properly worked.

My 9, 1853.

JOSEPH J. W. WATSON, Esq., Ph.D., M.E., F.G.S.

THE MIDLAND WAGGON COMPANY.

Capital £50,000, in 1000 shares of £50 each.—Provisionally registered.

PROVISIONAL DIRECTORS.

GEORGE WILTON CHAMBERS, Esq., Clough House, Rotherham.

JOHN ALDRED, Esq., Wellington House, Rotherham.

WILLIAM OWEN, Esq., Wellington, Rotherham.

ROBERT CUTFORTHAY HOYLE, Esq., Aughton Hall.

JAMES SOLLY, Esq., Tollend Hall, Tipton, Staffordshire.

CONSULTING ENGINEER—Wm. Prime Marshall, Esq., C.E., Newhall-st., Birmingham.

SOLICITORS (pro tem.)—Mr. Robert Wright, accountant, Birmingham;

SECRETARIES (pro tem.)—Mr. John Clarke, land agent, Rotherham.

This company is formed for the purpose of purchasing and supplying railway wagons to coal owners and others trading upon the Midland, London and North Western, and other railways.

Wagons will be let by this company at an annual rental, which, after payment for repairs, will reduce a sufficient amount, not only to reimburse all costs of management, and pay to the shareholders a dividend of 5% per cent. per annum (to be paid half-yearly), but also to leave an ample fund as reserved capital, to be laid out in the construction of new wagons, or in such other ways as may be deemed most desirable.

Proposals have been made by Mr. W. A. Adams, of Birmingham, wagon owner and builder, to supply to the company 500 wagons of a fit and proper construction, 200 to be placed forthwith at the company's disposal, and the remainder as may be required; and to repair and maintain the same for a term of nine years, at a stated amount.

A considerable portion of the capital is already agreed to be subscribed, and a number of wagons are now complete and ready to be let.

A Deed of Settlement will be forthwith prepared and registered. £5 per share will be called immediately, and the remainder in calls not exceeding 10 per cent., and at intervals of not less than three months.

The company will be under the management of a committee of five shareholders, holding not less than 20 shares each, of whom three shall form a quorum, and two of whom shall retire annually, but shall be eligible for re-election.

A depot for wagons will be established at Marsden, near to the line of the Midland Railway, where it is intended the public offices of the company shall be situated, and the business of the company transacted.

The temporary office of the company will be held at the offices of Mr. John Clarke, land agent, Westgate, Rotherham, where application for wagons for hire, as also for shares, may be made. Preference will be given to applicants for shares from parties hiring or requiring wagons.

NO APPLICATION FOR SHARES can be RECEIVED SUBSEQUENT to the 22d Inst., when the directors will proceed to allot the remaining shares of the company.

HOYLE AND MARSH, Solicitors, Rotherham.

THE LONDON INDISPENSABLE LIFE POLICY COMPANY.

72, LOMBARD STREET.

TRUSTEE.

J. CAMPBELL RENTON, Esq. RICHARD SPOONER, Esq., M.P.

RICHARD MALINS, Esq., Q.C. M.P. JAMES FULLER MADDOX, Esq.

WILLIAM WILBERFORCE, Esq.

DIRECTORS.

WILLIAM ADAMS, Esq., New Broad-street.

JOHN ATKINS, Esq., White Hart-court, Lombard-street.

HENRY AUGUSTUS BEVAN, Esq., John-street, America-square.

JOHN DANGERFIELD, Esq., Craven-street, Strand.

R. HENRY FORMAN, Esq., Ordnance, Pall-mall.

JOHN HAMILTON, Esq., Alfred-place, Trafalgar-square.

JOHN MATTHEWS, Esq., Arthur-street West, City.

C. OCTAVIUS PARNELL, Esq., Norfolk-street, Park-lane.

WILLIAM WILLIAMS, Esq., Broad-lane, Fenchurch-street.

PADDINGTON LOCAL BOARD (24, Connaught-terrace, Edgware-road).

The Rev. JAMES BURGESS BOONE, A.M., Stanhope-street, Hyde-park.

CARL CLEVER, Bedford-square, and St. Albans.

ROGER GADDEN, Esq., Maida Hill-West, and Bedford-row.

CHARLES FEMBERTON, Esq., Eastbourne-terrace, Hyde-park; and Lincoln's Inn-fields.

GEORGE Y. EBBON, Esq., Eastbourne-terrace, Hyde-park; and New-square.

W. H. TRINDER, Esq., John-street, Bedford-row.

SUPERINTENDENT—Chas. Hoghton, Esq.

The POLICIES of this company, being INDISPENSABLE (in terms of the Deed of Constitution, duly registered), are TRANSFERABLE SECURITIES. Used as FAMILY PROVISIONS, they relieve the assured from all doubt and anxiety as to their safety.

ALEX. ROBERTSON, Manager.

CHUBB'S FIRE-PROOF SAFES AND LOCKS.—CHUBB and SONS have now on SALE, at their warehouses, an assortment of their FIRE-PROOF SAFES. These safes, undoubtedly the most secure from fire, fraud, and theft, are sold at moderate prices. CHUBB'S LOCKS, with all the recent improvements, CASH BOXES, and DEED BOXES, of all sizes, may be inspected. IRON DOORS and FRAMES for strong rooms. Complete lists, with prices, will be sent on application.—Chubb and Sons, 57, St. Paul's Churchyard, London, E.C.; Liverpool; 16, Market-street, Manchester; and Worcester-street, West-chambers,

THE CUMBERLAND HEMATITE IRON ORE COMPANY.

To be conducted on the "COST-BOOK SYSTEM."—No Deed to be signed.

Capital £50,000, in 50,000 shares of £1 each, to be paid up on allotment, and issued in Certificates to bearer.

COMMITEE OF MANAGEMENT.

EDMUND BURKE, Esq., Lloyd's; and 3, Norfolk-road, St. John's Wood.

GEORGE BUSH, Esq., Lloyd's; and 16, Camden Villas, Regent's-park.

JOHN LAWTON, Esq., 12, Seymour-street West, Hyde-park.

Col. A. PERCEVAL, 1, Belgrave-road, Belgrave-square.

MR. ARTHUR RUMHOLD, Bart., 27, Sackville-street, Piccadilly.

JOHN S. RYMER, Esq., Ealing, Middlesex.

MARTIN STUTLEY, Esq., 6, Cambridge-terrace, Regent's-park.

JOHN WATSON, Esq., Albion Lodge, Stamford-hill.

(With power to add to their number.)

BANKERS—Messrs. Williams, Deacon, Labouchere, and Co.

SOLICITORS—Messrs. Murray, Rymer, and Murray, 7, Whitehall-place.

BROKERS—James Shepherd, Esq., 1, Finch-lane, Cornhill.

SECRETARY (pro tem.)—Mr. Henry Hunter.

TEMPORARY OFFICES OF THE COMPANY,—30, BUCKLERSBURY.

PROSPECTUS.

This company, whose rights extend over an area of 192 acres of rich mineral land, held by sub-lease for the remainder of the term, granted by the Baroness de Sternberg to Richard Parker and others, for a period of 21 years from 1st June, 1850, at a royalty rent of 1s. od. for every 34 cwt. of ore raised, and £10/- per annum certain rent, which merges in the royalty, is proposed for the purpose of working hematite iron ore in the Friarsburg Parks mining district, situated within six miles of the port of Whitehaven. The ore raised in the immediate district of this mine is proved to be unusually rich, averaging from 60 to 70 per cent. of iron. In order to produce iron of the best quality, hematite iron ore is mixed with the Welsh, Staffordshire, Newcastle, and Scotch ores; and as the demand for iron of a superior quality increases, a corresponding consumption of hematite iron ore will be necessarily incurred.

The cost of raising the ore varies from 3s. to 3s. 6d. per ton, say 3s. 6d.

Royalty rent 1s. 6d.

Carriage to shipping port, from 2s. 6d. to 3s. per ton, say 2s. 6d.

Incidental expenses 1s. 6d.

Making the cost of production 7s. 6d.

The selling price at Whitehaven, free on board ships, 1s. per ton, and upwards, say 1s. 6d.

Thus giving a clear profit of 3s. 6d. per ton.

A branch railway is about to be constructed through the district, which will reduce the rate of carriage 1s. 6d. per ton.

Three different provings have been made at a considerable outlay, and a rich bed of ore has been bored through at a depth of 25 fms., corresponding with that obtained from the mines now working on the boundary lines. It is proposed to commence with two workings to this depth, the cost of which, it is estimated, will not exceed £25000 each; and the yearly estimated product of 20,000 tons from each winning makes—

40,000 tons, say at 1s. per ton. £22,000

15,000

Cost of production £7,000

Leaving To be allowed for salaries and incidental expenses at the works, and at the shipping port of Whitehaven, say about £1,500

Leaving a profit on this outlay of £5,500

But in order to turn the whole of the royalty to the best possible advantage, the expense of successive workings must necessarily be incurred, which would produce corresponding profits; and when the works shall be in full operation on an extended scale, they are estimated to realise a large per centage on the capital invested.

The capital to be raised will place the company in the advantageous position of enabling it to meet any demand for ore which may be made upon it for shipment or otherwise, and of affording the necessary facilities for carrying on the business in a satisfactory and profitable manner.

The extent of this royalty is very great, compared with those of others in the district.

The thickness of the beds of ore varies from 12 ft., 22 ft., 30 ft., to 50 ft. This royalty being so well proved, and of such an extensive area, abounding in mineral wealth, affords the best guarantee for safe investments and large profits.

Prospects, with printed forms of application for shares, may be obtained of the broker and at the offices of the company, where the engineer's reports, maps, and specimens of the ore, may be seen.

HENRY HUNTER, Esq.

ABSTRACT OF REPORTS.

Therefore, judging of surface appearance, and taking into account the apparently regular stratification of the rocks, together with existing proofs by bore-holes and drifts, I have no hesitation in stating that the prospects of lucrative mining are much superior to any iron-ore royalty I am acquainted with.

JOSEPH ROBSON, Whitehaven.

Taking every circumstance connected with this royalty into consideration, we have come to the conclusion that there is every probability of a highly remunerative yield extending over a long period.

JOSEPH ROBSON, Railway Engineer and Practical Geologist.

JOHN PECCIVAL, Inspecting Viewer for General Wyndham.

FORM OF APPLICATION FOR SHARES.

AMERICA IN FORTY-EIGHT HOURS!—INDIA AND BACK IN A FORTNIGHT!—Being SUGGESTIONS for certain IMPROVEMENTS in the CONSTRUCTION of STEAM-VESSELS, in which the practicability of mechanical flying is clearly demonstrated, as evinced in the animal creation, as well as by the deductions of science. By D. S. BROWN. Third edition, price Sixpence. Saunders and Stanford, 6, Charing-cross.

PATENT SAFETY FUSE.—The GREAT EXHIBITION PRIZE MEDAL was AWARDED to the MANUFACTURERS of the ORIGINAL SAFETY FUSE, BICKFORD, SMITH, and DAVEY, who beg to inform Merchants, Mine Agents, Railway Contractors, and all persons engaged in Blasting Operations, that, for the purpose of protecting the public in the use of a genuine article, the PATENT SAFETY FUSE has now a thread wrought into its centre, which, being patent right, infallibly distinguishes it from all imitations, and ensures the continuity of the gunpowder.

This Fuse is protected by a second Patent, is manufactured by greatly improved machinery, and may be had of any length and size, and adapted to every climate.

Address.—BICKFORD, SMITH, and DAVEY, Tuckingsmill, Cornwall.

SAFETY FUSE.—Messrs. WILLIAM BRUNTON and CO., PENHALICK, near BEDRUTH, CORNWALL, MANUFACTURERS OF FUSE, of every size and length, as exhibited in the Great Exhibition of 1851, and supplied to the Royal Arsenal at Woolwich, the Arctic Expedition, and every part of the globe.

Messrs. BRUNTON & CO. are at all times PREPARED to EXECUTE UNLIMITED ORDERS for SUPPLYING FUSE direct from their own MANUFACTORY, warrant that it will prove equal to, if not better, than any to be procured elsewhere.

MINING.—IMPORTANT TO PROPRIETORS OF MINING PROPERTY.—STEAM-ENGINES, adapted for EXPERIMENTAL MINING, may BE RENTED or PURCHASED, of 10, 12, 20-horse power and upwards. The engines are strong, simple, and, being mounted on wheels, may be removed at pleasure and set to work, without delay of fixing brickwork or chimney. Several may be seen at work, and ready for delivery.—Apply to Messrs. Medwin Hall, engineers, 92, Blackfriars-road.

IMPROVED STEAM HAMMERS.—Mr. ISHAM BAGGS is now prepared to SUPPLY ironmasters, engineers, manufacturers, and miners, with STEAM HAMMERS and STAMPS of the most IMPROVED CONSTRUCTION for forging and hammering iron and other metals, driving piles, and stamping and crushing gold quartz, metallic ores, and minerals of every description. By the introduction of a principle recently patented by himself, in conjunction with Mr. Frederick Brewster, C.E., no less than FIFTY PER CENT. of the STEAM now used is SAVED while the blow stroke is very much harder than in the engines now in use.

The NEW STEAM-STAMPS, for crushing ores, have been adopted by many of the leading companies, and they are now at work in various parts of North and South America, Australia, and England. They are eminently adapted for spelling, as well as crushing to fine powder, and they effect an enormous saving in superseding manual labour. A four-horse steam-stamp complete, with all the latest improvements, £140 (royalty included), for cash; a twenty-horse engine ditto, £650, and other sizes at proportionate rates. Contracts to any extent undertaken.

For further particulars, apply to Mr. Isham Baggs, Mining Journal office, No. 26, Fleet-street, London.

EXTRACTION OF GOLD AND SILVER FROM THEIR ORES.—THE NEW RAPID AMALGAMATOR (BAGGS'S PATENT) requires ONLY HALF the usual amount of MERCURY, and effects an enormous SAVING of TIME in the process of AMALGAMATION. The NEW MERCURIAL SEPARATOR, executes under the same patent, effects a complete separation of the mercury from the refined quartz, after the process of amalgamation is complete, in the space of A FEW SECONDS, instead of requiring, as at present, tedious operation of some TWO HOURS.

In these machines, improved mechanical arrangements are aided by the most powerful chemical affinity, and from the principles introduced, it is next to impossible for a particle of gold to escape. The three following companies have already adopted these important improvements:—The Anglo-Californian Gold Mining Company, the Chinese California Gold Mining Company, and the Anglo-Australian Gold Mining Company.

For terms of license, and other particulars, apply to Mr. Isham Baggs, Mining Journal office, 26, Fleet-street.

THE NEW STEAM STAMPS, for CRUSHING GOLD QUARTZ AND METALLIC ORES—(BAGGS'S PATENT).

These powerful MACHINES are now TO BE HAD at a SHORT NOTICE, and of any number of horse-power, from four to twenty.—All communications to be addressed to Mr. ISHAM BAGGS, at the office of the Mining Journal, 26, Fleet-street.

A 4-horse Steam stamp, complete, £130, royalty included, for cash, and other sizes at proportionate rates.

The following Testimonial of the power and efficacy of these engines is from the manager of one of the smelting establishments in South Wales, where steam stamps, of moderate power, under this patent, have been for some time in operation:

TO ISHAM BAGGS, Esq., LONDON.

DEAR SIR.—In reply to your letter of inquiry about the action of your Patent stamping Machine, I beg to say, that I have now had it fully at work for two months; the quantity of coarse metal it will crush with ease is about 20 tons in 10 hours—about two-thirds is crushed fine, the remainder would require to be stamped a second time, to reduce it to the same fineness. The steam used is very little, and the crushing force very great; large lumps of the metal (which is very hard) are immediately broken down—when I say large, I mean lumps as big as ordinary paving stones. I am now putting up the second machine which you sent me, and have no doubt it will give (as the first has already done) entire satisfaction. I am quite convinced that the principle is excellent, and far superior to any other mode of crushing.

I am yours, &c., ALFRED TRUEMAN.

Spiry Copper Works, Llanelli, July 23, 1852.

The patent stamps may be used with atmospheric pressure, through the medium of a water-wheel or other prime mover. The application is extremely simple, very powerful, and where a motive-force is ready at hand, the machines cost less than when steam is employed.

NOTICE.—TO GOLD COMPANIES, AND THE MINING WORLD GENERALLY.—THE NEW STEAM STAMPS.—One of these powerful ENGINES HAS JUST BEEN ERECTED, and is NOW SET TO WORK, BLACKFRIARS ROAD, where it may be seen in operation daily, and its powers subjected to any required test. These stamps, after the most careful inspection, have already been adopted by the following companies:—

THE ENGLISH AND AUSTRALIAN COPPER COMPANY.
THE ANGLO-CALIFORNIAN GOLD MINING COMPANY.
THE ALLIANCE GOLD MINING COMPANY.

THE ANGLO-AUSTRALIAN GOLD MINING COMPANY.
THE MEXICAN AND SOUTH-AMERICAN MINING COMPANY.
THE ST. JOHN DEL REY (Gold, Brazil).
THE LIMA LEAD MINING ASSOCIATION (Spain).

THE LONDON AND CALIFORNIAN GOLD QUARTZ CRUSHING COMPANY.

And they are about being adopted by several other companies and private individuals, who have carefully timed the results of their crushing power, and submitted their capabilities to the most severe tests. In proof of the utility of these engines, it may be observed, that the saving in manual labour which they will effect to one company along (the St. John del Rey) will amount to many thousand pounds sterling per annum. For cards to view the engine at Messrs. Medwin and Hall's, apply, by letter, to Mr. Isham Baggs, Mining Journal office, 26, Fleet-street, London, where any further particulars may be obtained on application.

THE WASHINGTON CHEMICAL COMPANY, NEWCASTLE-ON-TYNE; MANUFACTURERS OF

PATTINSON'S OXICHLORIDE OF LEAD.

The WASHINGTON CHEMICAL COMPANY having, during the last year, ESTABLISHED a MANUFACTORY of PATTINSON'S OXICHLORIDE OF LEAD on a large scale, and being able to supply it with regularity, and to execute ORDERS without DELAY, now proceed to bring this new and valuable preparation of lead before their friends and the public, quite sure that it will not, in the present age, be condemned because it is new, and that if judged by its merits, it must make its way, and finally take its place as one of the important manufactures of this country.

PATTINSON'S OXICHLORIDE OF LEAD is a chemical combination of one equivalent of chloride of lead and one equivalent of oxide of lead; it being well known that common white lead is a chemical combination of one equivalent of oxide of lead and one equivalent (or thereabouts) of carbonic acid, constituting what is called in chemical language, carbonate of lead. Now, there is no reason to conclude that carbonate of lead is the only compound of lead valuable as a paint, and still less that it should be the best compound of lead for that purpose. In point of fact it is not so, for the newly-discovered oxichloride in most, if not in all respects, is far superior; its colour is brilliantly white, and in a number of cases it has been tried against the best white lead that could be obtained, and after a period of upwards of two years, it has been found to retain its white colour considerably better than the lead against which it was tried. But the chief and by far the most important advantage it possesses is its remarkable and very decided superiority of body, by which term the power of covering surface well and extensively is understood among painters. The attention of the discoverer was at a very early period drawn to this circumstance, and since that time the Washington Chemical Company have had abundant opportunities of placing its superiority in this important particular beyond all doubt. They have themselves performed a number of experiments, and have also caused a number of experiments to be performed, in the large way, by various practical men, to ascertain accurately its covering power as compared with the best white lead, and they now state the proportions to be as 60 to 100—that is, 60 lbs. of oxichloride paint will cover us much surface as 100 lbs. of the best white lead, the saving of cost being in the same proportion; besides this, the coating is thicker and more protective, both in and out of doors, as the oxichloride dries into a hard tenacious layer, more like an enamel than paint. In using the oxichloride, no difference in the materials with which it is mixed is required, oil and turpentine being employed as usual both for work technically called flatting and for work intended to be varnished. For the use of paper stainers and leather dressers, the oxichloride is found to be peculiarly suitable. The Washington Chemical Company strongly recommend this newly-discovered substance to the notice of consumers, both on account of its economy and its intrinsic good qualities as a paint.

AGENTS.—LONDON—Mr. Richard Cooke, 7, Sic-sane.

MESSRS. BLUNDELL, SPENCE, AND CO., 9, UPPER THAMES-STREET.

LIVERPOOL—MESSRS. JOHNSON AND McGOWAN.

MANCHESTER—MR. JAMES DOUGLAS.

LEEDS—MESSRS. T. AND E. G. JEPSON.

SUNDERLAND—MR. JOHN YOUNG.

DEVONSHIRE AND CORNWALL—MR. RICHARD PENROSE, TAVISTOCK & PLYMOUTH.

EDINBURGH AND EAST COAST OF SCOTLAND—MR. WILLIAM BAILEY, jun.

GREENSIDE-PLACE, EDINBURGH.

GLASGOW AND WEST COAST OF SCOTLAND—MR. JOHN HINSHAW, GLASGOW.

DUBLIN AND SOUTH OF IRELAND—MR. P. LANSKEY, NO. 91 MIDDLE ABBEY- STREET, DUBLIN.

BELFAST—MESSRS. WILLIAM STEVENSON, jun., AND CO.

NEW PATENT ACT, 1852.—MR. CAMPIN, having advocated

Patent Law Reform before the Government and Legislature, and in the pages

of the Mining Journal, &c., is now READY TO ADVISE AND ASSIST INVENTORS

IN OBTAINING PATENTS, &c., under the NEW ACT.

The Circular of Information, gratis, on application to the Patent Office and De-

IRONWORKS AND MINES ON THE CONTINENT.

TO BE SOLD, by the Official Manager of the Nister Dale Iron Company, the IRONWORKS and MINES near Hachenburg, in the DUCHY OF NASSAU; also, the WORKS and MINES at Wissen, in PRUSSIA. The works at Nassau are composed of good and extensive machinery, worked both by steam and water, and are in every way applicable to the manufacture of iron; and the mines of iron and coal are conveniently situated near the works. The property at Wissen is situated about 10 English miles from the Nassau works, and the mines are rich, and capable of producing the best description of iron, as well as copper, lead, and other metals; and the two properties are well adapted for the manufacture of iron.—Further particulars may be had of Messrs. Hume and Bird, solicitors, 16, Great James-street, Bedford-row.

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THE PENINSULAR AND ORIENTAL STREAM NAVIGATION COMPANY.

NEW ARRANGEMENTS, AND REDUCED FARES AND FREIGHTS.

DEPARTURES OUTWARDS.

INDIA and CHINA, via EGYPT.—For Aden, Ceylon, Madras, Calcutta, Penang, Singapore, and Hong Kong, on the 4th and 20th of every month from Southampton; and on the 10th and 26th from Marseilles.

AUSTRALIA via SINGAPORE.—For Adelaide, Port Phillip, and Sydney (touching at Batavia), on the 4th July, and 4th of every alternate month thereafter from Southampton, and on the 10th of July, and 10th of every alternate month thereafter from Marseilles.

MALTA and EGYPT.—On the 4th and 20th of every month from Southampton; and on the 10th and 26th from Marseilles.

MALTA and CONSTANTINOPLE.—On the 27th of every month from Southampton, SPAIN and PORTUGAL.—For Vigo, Oporto, Lisbon, Cadiz, and Gibraltar, from Southampton, on the 7th, 17th, and 27th of every month.

CALCUTTA and CHINA.—Vessels of the Company go occasionally (generally once a month) between Calcutta, Penang, Singapore, Hong Kong, and Shanghai.

N.B.—The rates of passage money and freight on the India and China lines have been considerably reduced, and may be had upon application at the Company's offices, 122, Leadenhall-street, London, and Oriental-place, Southampton.

M. R. G. F. MUNTZ'S (JUN.) PATENT SOLID BRASS TUBES, 11½ lb. per dozen, delivered in any part of the United Kingdom.—In introducing these tubes to the notice of engineers and the public, the patentee respectfully directs their attention to some of the advantages which they possess over those previously in use:—

102
Inst. Economy in the first cost.—2d. Greater durability, being made of a mixture of metal hard in its own nature, and not mechanically hardened, as ordinary brass tubes are, which renders them liable to split or burst when subjected to the expansion and contraction caused by the heating and cooling of the boiler.—3d. Equality of hardness throughout, the metal being sufficiently tough to bear expanding, when fixing in the boilers, without softening the ends, which is necessary in fixing the brass tubes previously in use, and which causes the softened parts to wear more.—4th. They are less liable to corrode than any mixture of brass which can be manufactured into tubes by the process previously employed.

G. F. Muntz's Patent Metal Company, French Walls, Birmingham, sole manufacturers.—Agents for London: Charles Moss and Co., 23, Fenchurch-street; Young, Dawson, and Co., Limehouse.—Bristol: E. Drew, Clifton Park.—Liverpool: C. Moss and Co., Redcross-street.

103
INFRINGEMENT.

WOODBRIDGE'S PATENT RIVET-MAKING MACHINE.—

104
I. JOHN BEITH HODGE, having unknowingly INFRINGED this PATENT, hereby give notice, that I have GIVEN UP my MACHINE to the proprietors of the patent, on their agreeing not to institute legal proceedings against me. And, further, I engage not to infringe the said patent in any way in future, and to use my best endeavours to protect the interest of the proprietors of the patent from any other infringers.

Signed, JOHN BEITH HODGE.
Witnessed by — WILLIAM JOHNSON, Patent Agent, Glasgow.
ROBERT CALDER, Engineer, Glasgow.

Glasgow, March 25th, 1853.

THE YORKSHIRE PATENT RIVET COMPANY, sole licensees of the above patent, having lately ERECTED extensive WORKS and powerful MACHINERY for the MANUFACTURE of RIVETS, BOLTS, SPIKES, &c., are prepared to execute all ORDERS that may be entrusted to them with the utmost care, both as regards the quality of iron used, and punctuality in delivery.

For price, &c., apply at the company's works, Scot-street, Hull.

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GALVANIZING WORKS.—SKAIFE'S PATENT GALVANIZED IRON (superior process).—WORKS at the REGENT'S CANAL BASIN, COMMERCIAL ROAD, LIMEHOUSE, LONDON.—SKAIFE supplies this metal, in every form—viz., SHEETS, PLAIN and CORRUGATED, of all sizes and gauges; WIRE of every gauge, and WIRE NETTING of all descriptions; GUTTERING; RAIN-WATER, SCREWED GAS and WATER-PIPES; HOOPING, CASTINGS, FURNACE-PANS, BATHS, BUCKETS, &c., wholesale, retail, and for export. Every description SHIPS' IRONWORK GALVANIZED; DECK SPIKES, NAILS, &c., always KEPT READY GALVANIZED. Estimates and drawings given for rods and buildings fixed complete.

J. SKAIFE is also AGENT for MOREWOOD AND ROGERS'S PATENT GALVANIZED IRON, both flat and corrugated; also for MOREWOOD AND ROGERS'S PATENT GALVANIZED TINNED IRON, for exportation, and PLUMBEZ ZINC. PORTABLE EMIGRANTS' HOUSES and substantial stores supplied at moderate prices, and on the shortest notice.

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THE MINING SHARE LIST.

Shares.	Mines.	Paid.	Last Price.	Present.	Dividends per Share.	Last Paid.	
6129 Alfred Consols (copper), Phillack		£2 16s	219 1/2	18 1/2 10	£7 2 0	20 13 0—May, 1853.	
2000 Anglesia Coal Company		4	4 1/2	0 10 0	0 2 0	Sov., 1852.	
624 Ballewiddien (tin), St. Just		11 1/2	19 1/2	10 1/2	11 10 0	0 10 0—May, 1853.	
3000 Bat Holes, Worthen, Salop.		17, 18s. 6d.	3 1/2	7 1/2 4	4 14 6	0 7 6—April, 1853.	
4000 Bedford United (copper), Tavistock		2 1/2	7	7 1/2 4	0 2 6	0 2 6—April, 1851.	
3000 Black Craig (lead), Kirkcudbrightshire		3	4 1/2	—	—	—May, 1849.	
64 Boscastle Downs (tin), St. Just		—	126	750 0 0	5 0 0	5 0 0—April, 1853.	
124 Bowesdolin and Wheal Castle		—	—	—	—	5 0 0—June, 1851.	
210 Botallack (tin, copper), St. Just		91 1/2	400	247 15 0	5 0 0	5 0 0—April, 1853.	
1800 Bryntail, Llanddios, Montgomeryshire		7	3	0 5 0	—	—May, 1851.	
2000 Callington (lead, copper), Callington		7, 12s.	4	1 8 0	0 4 0	Sept. 1847.	
1000 Cart Brae (copper, tin), Illogan		15	85	219 10 0	2 0 9	—April, 1853.	
128 Camborne (copper), Cornwall		75	38	—	—	—	
236 Condurrow (copper, tin), Camborne		20	130	31 0 0	3 0 0	—April, 1853.	
2310 Cook's Kitchen (copper, tin), Illogan		13 1/2	24	—	—	—	
128 Cwmyntwith (lead), Cardiganshire		60	120	840 0 0	10 0 0	—March, 1852.	
124 Devon Great Consols (copper), Tavistock		1	365	365 370 385	361 0 0	15 0 0—May, 1853.	
2000 Dhuquide (copper), Ireland		1	1 1/2	1 1/2	0 1 4	0 1 4—May, 1853.	
672 Ding-Dong (tin), Guisval		5	—	55 0 0	—	—1860.	
479 Dolcoath (copper, tin), Camborne		237 1/2	26	861 4 0	2 0 0	June, 1853.	
128 Drake Walls (tin, copper), Calstock		17, 9s.	2 1/2	0 6 6	0 1 6	—April, 1853.	
360 East Darren (lead), Cardiganshire		28	105	4 0 0	2 0 0	Jan., 1853.	
128 East Pool (tin, copper), Pool, Illogan		24 1/2	150	233 0 0	—	—1843.	
24 East Wheal Crofty (copper), Illogan		125	67 1/2	840 0 0	—	—	
128 East Wheal Rose (silver-lead), Newlyn		50	180	225 0 0	10 0 0	—March, 1852.	
494 Fowey Consols (copper), Tywardreath		40	30	—	—	—	
8715 General Mining Co. for Ireland (cop., lead)		1 1/2	61 1/2	0 10 1	0 1 8	June, 1853.	
1000 Goginan (lead), Cardiganshire, Wales		8	—	44 0 0	—	—	
1000 (New) ditto ditto		6	18	—	—	—	
1224 Gomannec (copper), St. Cleer		12 1/2	9	0 7 6	0 7 6	Dec., 1852.	
96 Great Consols (copper), Gwennap		1000	200	353 6 8	0 2 0	Jan., 1851.	
8000 Great Onslow Consols, Carmelford		1 1/2	—	0 2 0	0 2 0	June, 1852.	
13730 Great Polgoon (tin), St. Austell		3	3	0 6 10 0	0 4 0	Oct., 1852.	
119 Great Work (tin), Germoe		100	155	161 10 0	5 0 0	May, 1853.	
1024 Herodsfoot (lead), near Liskeard		8 1/2	14	0 7 6	0 2 6	Aug., 1851.	
1000 Holmboe (lead, copper), Callington		25	14	25 0 0	—	Feb., 1844.	
2000 Holylford (copper), near Tipperary		11	7	3 5 0	0 3 0	Sept., 1852.	
76 Jamison (lead), Mold, Flintshire		12s. 6d.	29	224 0 0	—	—	
788 Kirkcudbrightshire (lead), Kirkcudbright		9 1/2	4 1/2	1 5 0	0 5 0	June, 1853.	
20000 Lackamore (copper)		1	1 1/2	0 1 0	0 1 0	June, 1853.	
29 Laxey Mining Company, Isle of Man		100	1200	1300	2 0 0	0 10 0—Aug., 1851.	
1000 Lewis (tin, copper), St. Erth		17	19 1/2	—	2 0 0	—April, 1853.	
160 Levant (copper, tin), St. Just		150	—	1038 0 0	0 2 6	—Dec., 1852.	
1000 Lasburne (lead), Cardiganshire, Wales		7 1/2	900	745 0 0	45 0 0	Dec., 1852.	
6000 Marke Valley (copper), Caradon		4, 10s. 6d.	3	0 2 6	0 2 6	May, 1853.	
3000 Mendin Hills (lead), Somerset		3 1/2	726	0 10 0	0 10 0	May, 1853.	
5000 Merlin (lead), Flint		2 1/2	34 1/2	1 8 6	0 2 6	April, 1853.	
5000 Millwr (lead), Flintshire		3	3 1/2	0 4 9	0 6 0	Oct., 1851.	
20000 Mining Co. of Ireland (copper, lead, coal)		7	17 1/2	8 1 0	0 7 0	Dec., 1852.	
3000 Nantlle Vale (slate), Llanfairfechan		1	1 1/2	0 1 3	1 3 0	May, 1853.	
478 Newtonards Mining Company, Co. Down		50	70	—	2 0 0	—	
200 North Pool (copper, tin), Pool		22 1/2	240	280 10 0	10 0 0	May, 1853.	
140 North Roskar (copper), Camborne		10	150	245 10 0	5 0 0	May, 1853.	
6000 North Wheal Basset (copper, tin), Illogan		10 1/2	35	1 15 0	5 0 0	May, 1853.	
6400 Par Consols (copper), St. Blazey		1 1/2	18	22 16 0	0 15 0	March, 1853.	
5000 Park United (lead), North Derbyshire		—	—	1 0 0	1 0 0	June, 1853.	
1160 Perran St. George (cop., tin), Perranzabuloe		21 1/2	49	1 15 0	0 10 0	June, 1851.	
200 Phoenix (copper, tin), Linkinhorne		30	750	—	0 6 0	—Dec., 1852.	
1000 Polberro (tin), St. Agnes		15	13	4 5 0	1 0 0	Dec., 1852.	
560 Providence Mines (tin), Uny Lelant		20 1/2	35	20 4 6	0 15 0	May, 1853.	
148 Rio Hill (tin), Tavistock		3 1/2	2 1/2	0 8 0	0 4 0	Jan., 1853.	
23200 Rorrington (lead), Snailbeach, Shrewsbury		1	1 1/2	0 2 2	0 2 2	July, 1852.	
258 South Cadron (copper), St. Cleer		2 1/2	205	275 19 0	1 0 0	May, 1853.	
8000 South Tamar (silver-lead), Beerferry		1 1/2	7	6 15 0	5 0 0	May, 1853.	
236 South Tolgas (copper), Redruth, Cornwall		16	185	69 0 0	4 0 0	May, 1853.	
248 South Wheal Frances (copper), Illogan		37 1/2	185	223 5 0	5 10 0	May, 1853.	
1024 Speare Consols (tin), St. Just, Cornwall		1 1/2	10 1/2	8 3 6	0 2 6	June, 1853.	
124 St. Anhyd & Grylls (copper, tin), Breamore		3	11	0 17 6	0 7 6	April, 1852.	
94 St. Ives Consols (tin), St. Ives		80	125	880 0 0	3 0 0	Feb., 1853.	
1000 Stark Park and Camborne Vein (copper)		10	12	12 10 0	—	—	
2000 Tamar Consols (silver-lead), Beeralston		4 1/2	4	4 11 0	2 0 0	Feb., 1853.	
6000 Tintoret (copper, tin), near Pool, Illogan		7	9	6 18 6	0 10 6	Feb., 1853.	
312 Trebant (silver-lead), Menheniot		2 1/2	23	1 12 6	0 1 0	May, 1853.	
8000 Treleigh Consols (copper), Redruth		6	2	1 3 0	0 5 0	Oct., 1847.	
372 Trevoneas (tin), St. Ives		6 1/2	27	0 15 0	0 13 0	May, 1853.	
26 Trevoseas (copper), Gwennap, Cornwall		32 1/2	200	4680 15 0	—	1848.	
120 Trevethan (copper), Gwennap, Cornwall		5	32	402 10 0	—	April, 1851.	
120 Trevetherick and Barrier (copper), Gwennap		130	80	295 10 0	2 10 0	Jan., 1853.	
100 Trumpet Consols (tin), near Helston		95	112	30 0 0	5 0 0	March, 1852.	
400 United Mines (copper), Gwennap		40	310	31 5 0	7 10 0	April, 1853.	
1024 Wellington (copper, tin), Perranzabuloe		8 1/2	7 1/2	2 2 6	0 5 0	March, 1851.	
256 West Cadron (copper), Liskeard		20	250	216 5 0	10 0 0	May, 1853.	
1024 West Providence (tin), St. Erth		5	32	18 0 0	2 10 0	March, 1853.	
1024 West Wheal Treasury (copper)		10, 4s. 10d.	10 1/2	0 10 0	0 10 0	May, 1853.	
236 Wheal Bassett (copper), Illogan		10 1/2	600	410 0 0	20 0 0	June, 1853.	
236 Wheal Bassett (copper), Gwennap		4	22	5 0 0	—	—	
236 Wheal Buller (copper), Redruth		5	1050	282 10 0	40 0 0	May, 1853.	
236 Wheal Clifford (copper), Gwennap		—	150	3 12 8	—	March, 1852.	
4280 Wheal Exmouth and Adams United		4 1/2	7 1/2	0 7 6	0 2 6	Dec., 1852.	
1000 Wheal Friendly (tin), St. Agnes		70	10	5 0 0	5 0 0	—	
128 Wheal Friendship (copper), Devon		120	105	2339 10 0	10 0 0	May, 1853.	
6000 Wheal Golden (silver-lead), Perranzabuloe		3	3 1/2	1 5 0	0 5 0	Sept., 1853.	
512 Wheal Jane (silver-lead), Kea		nil	17	0 2 0	0 2 0	May, 1853.	
430 Wheal Lovel (tin), Wendron		33	44 1/2	17 10 0	2 10 0	Oct., 1852.	
112 Wheal Margaret (tin), Uny Lelant		79	117	166 0 0	2 10 0	May, 1852.	
312 Wheal Mary Ann (lead), Menheniot		5 1/2	42	23 3 0	1 0 0	Sept., 1852.	
90 Wheal Owles, St. Just, Cornwall		70	300	97 13 0	12 10 0	May, 1853.	
6000 Wheal Prockler (lead, antimony), St. Kew		1	1 1/2	0 0 0	1 0 0	March, 1853.	
1024 Wheal Reeth (tin), Uny Lelant		20 1/2	50	40 10 0	3 0 0	Sept., 1852.	
128 Wheal Trevethan (silver-lead), Liskeard		107	270	232 10 0	5 0 0	June, 1853.	
128 Wheal Trelawny (silver-lead), Liskeard		8 1/2	63	32 10 0	3 0 0	April, 1853.	
124 Wheal Tremayne (tin, copper), Gwinear		9 1/2	20	29 21	9 15 0	0 10 0—April, 1853.	
5000 Wicklow (copper), Wicklow		5	60	61	19 18 0	1 5 0	Feb., 1853.

FOREIGN MINES.

Shares.	Paid.	Last Price.	Present.

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